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ABSTRACT

This program guide contains the standard emergency medical services curriculum for technical institutes in Georgia. The curriculum encompasses the minimum competencies required for entry-level workers in the emergency medical services field, and includes job skills in six emergency medical services divisions outlined in the national curriculum: prehospital environment, preparatory, trauma, medical, obstetrical/gynecological and neonatal, and behavioral. The general information section contains the following: purpose and objectives; program description, including admissions, typical job titles, and accreditation and certification; and curriculum model, including standard curriculum sequence and lists of courses. The next three sections contain the courses: general core courses (English and mathematics); fundamental technical courses (introduction to paramedic profession; fluids, electrolytes, and shock; general pharmacology; respiratory function and management; trauma); and specific technical courses (cardiology, medical emergencies I-II, obstetrics/gynecology, pediatrics, behavioral emergencies, clinical application of advanced emergency care). Each course consists of the following: a course overview (description, competency areas, prerequisites, credit hours, contact hours); course outline with student objectives and class and lab hours; and resource list. Appendixes to the guide list equipment and medications needed for the program. (KC)

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GEORGIA DEPARTMENT OF TECHNICAL AND ADULT EDUCATION

EMERGENCY MEDICAL SERVICES PROGRAM GUIDE

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EMERGENCY MEDICAL SERVICES PROGRAM GUIDE

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EMERGENCY MEDICAL SERVICES PROGRAM GUIDE

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Bobby Tripp
Dougherty County Emergency Medical Services

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HOW TO USE THIS MANUAL

Summary

This manual is divided into:

Tabs - major divisions, physically separated by numbered tab dividers

Sections - divisions within a tab

Subjects - divisions within a section

Numbering System

Each document (Subject) has a unique 6-digit number. This number is divided into 3 sets of 2 digits which are separated by dashes.

Example: 04 - 02 - 03
TAB SECTION SUBJECT

Locating a Document

Document numbers appear on the upper right hand corner of each page (see top of this page). To locate a subject:

1. Refer to the Table of Contents.
2. Note the document number for the subject.

   Example: 04-02-03

3. Turn to the tab divider marked 04 and within this tab find Section 02 and Subject 03.

Table of Contents

The table of contents (00-00-01) is intended to give a cover-to-cover overview of the manual contents and organization. It lists contents of a Tab to the Section and Subject level.

Amendments

Registered manual holders are instructed to keep their manuals up-to-date.

Manuals Document Transmittal	All new or revised documents are sent to the registered holder of the manual and are recorded on a Manuals Document Transmittal Form. Transmittals are numbered consecutively, and instructions for use are printed on the form.
Amendment Record	The registered holder of the manual records the receipt of all manual document transmittals on the Amendment Record. This record and instructions are found on the reverse side of the manual title page.

GENERAL INFORMATION

Introduction

Overview

The Emergency Medical Services program of study is consistent with the philosophy and purpose of the institution. The program provides academic foundations in communications, mathematics, and human relations, as well as technical fundamentals. Program graduates are well grounded in the fundamentals of emergency medical services theory and application and are prepared for employment and subsequent upward mobility.

The Emergency Medical Services program is a theoretically and technically advanced program that provides the student with necessary knowledge and skills to adapt to the rapidly changing emergency medical services field. Important attributes for success of program graduates are critical thinking, problem solving, human relations skills, and the ability to apply technology to work requirements.

The program structure acknowledges individual differences and provides opportunities for students to seek fulfillment of their educational goals. The program does not discriminate on the basis of race, color, national origin, religion, sex, handicapping condition, academic disadvantage, or economic disadvantage.

To assist each student to attain his or her respective potential within the program, both the instructor and the student incur an obligation in the learning process. The instructor is a manager of instructional resources and organizes instruction in a manner which promotes learning. The student assumes responsibility for learning by actively participating in the learning process.

This is a dynamic field which requires extraordinary attention to current curriculum and up-to-date instructional equipment, materials, and processes. The Emergency Medical Services program must promote the concept of change as the profession evolves. The need for nurturing the spirit of involvement and lifelong learning is paramount in the emergency medical services profession.

GENERAL INFORMATION

Introduction

Standard Curriculum

The Emergency Medical Services program guide presents the standard emergency medical services curriculum for technical institutes in Georgia. This curriculum addresses the minimum competencies for the Emergency Medical Services program. The competency areas included in a local Emergency Medical Services program may exceed what is contained in this program guide, but it must encompass the minimum competencies contained herein.

As changes occur in the Emergency Medical Services program, this guide will be revised to reflect those changes. Proposed changes are first evaluated and approved by the local program advisory committee and then forwarded to the State Technical Committee for approval and inclusion in the state standard program guide.

This program guide is designed to relate primarily to the development of those skills needed by individuals in the field to be competent in the six emergency medical services divisions outlined in the national curriculum: prehospital environment, preparatory, trauma, medical, obstetrical/gynecological and neonatal, and behavioral.

GENERAL INFORMATION

Introduction

Developmental Process

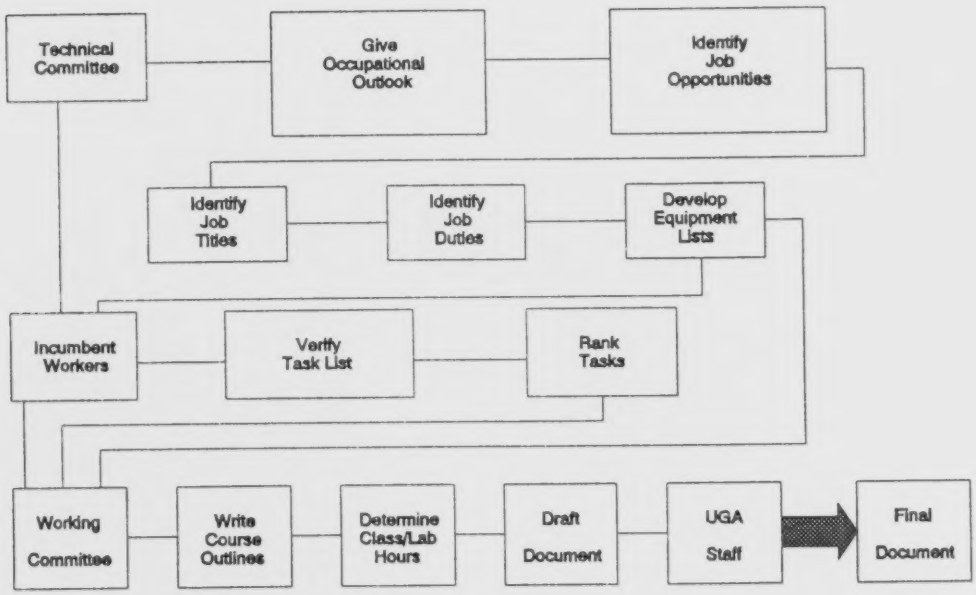
The development of the Emergency Medical Services program guide was based on the premise that the people in the industry can best determine program needs. With this in mind, representatives from health services which would employ program graduates were asked to serve on a State Technical Committee to help identify the technical content and to provide overall guidance to ensure that the resulting program would produce graduates qualified for entry-level technical positions in the profession.

The State Technical Committee verified an occupational task list that had been compiled through extensive research. These representatives included workers who had actually performed the duties and tasks being verified.

Technical institutes which would implement the curriculum were also included in the developmental effort. Representatives from the technical institutes provided the expertise in teaching methodology unique to each discipline and developed the courses contained in this program guide.

The University of Georgia coordinated and directed the development of the curriculum and produced the final program guide. The role of each group in the developmental process is shown in the diagram on the following page.

DATA/PROCESS FLOW DIAGRAM



GENERAL INFORMATION

Introduction

Purpose and Objectives

Purpose

The purpose of the Emergency Medical Services program is to provide educational opportunities to individuals that will enable them to obtain the knowledge, skills, and attitudes necessary to succeed in the emergency medical services profession.

The Emergency Medical Services program provides educational opportunities regardless of race, color, national origin, religion, sex, age, handicapping condition, academic disadvantage, or economic disadvantage.

The Emergency Medical Services program is intended to produce graduates who are prepared for employment as paramedics after successful completion of the certification examination. Program graduates are to be competent in the general areas of communications, math, and professional relations. Graduates are to be competent in the six emergency medical services divisions outlined in the national curriculum: prehospital environment, preparatory, trauma, medical, obstetrical/gynecological and neonatal, and behavioral.

Objectives

1. Provide current curriculum, instructional materials, and equipment (in accordance with available funding) which teach knowledge, skills, and attitudes appropriate to the needs of the profession.

2. Provide educational facilities which foster learning and provide safe, healthy environments available and accessible to all students who can benefit from the program.

3. Provide academic instruction which supports effective learning within the program and which enhances professional performance on the job.

4. Provide employability skills which foster work attitudes and work habits that will enable graduates of the program to perform as good employees.

5. Nurture the desire for learning so that graduates will pursue their own continuing education as a lifelong endeavor.

6. Provide an educational atmosphere which promotes a positive self-image and a sense of personal well-being.

7. Provide education that fosters development of good safety habits.

8. Provide admission, educational, and placement services without regard to race, color, national origin, religion, sex, age, or handicapping condition.

9. Provide information to the public regarding the program that will facilitate recruitment and enrollment of students.

10. Promote good public relations via contacts and regular communications with business, industry, and the public sector.

11. Promote faculty and student rapport and communications to enhance student success in the program.

GENERAL INFORMATION

Program Description

Program Defined

The Emergency Medical Services program prepares students for employment in paramedic positions in today's health services field. The emergency Medical Services program provides learning opportunities which introduce, develop, and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention, and advancement. The program provides opportunities to upgrade present knowledge and skills from the basic EMT level to retrain as a paramedic. Graduates of the program receive an Emergency Medical Services diploma and are eligible to sit for the paramedic certification test.

GENERAL INFORMATION

Program Description

Admissions

Admissions Requirements

Admission of new students to the Emergency Medical Services program is contingent upon their meeting all of the following requirements:

a) attainment of 18 or more years of age;
b) documentation of high school graduation or satisfaction of High School Equivalency Certificate requirements;
c) achievement of the 7th grade level in math and the 8th grade level in reading and English as shown on a statistically validated test;
d) completion of application and related procedures;
e) documentation of Georgia Certification as a basic EMT;
f) documentation of a physician's examination; and
g) documentation of 6 months experience working as a basic EMT.

Admission of transfer students is contingent upon their meeting the following:

a) regular admission and good standing at a regionally accredited diploma or degree granting institution; and
b) proper completion of application and related procedures.

Provisional Admission

A new student who does not meet the regular admission requirements of the program may be admitted on a provisional basis. The requirements for provisional admission are:

a) attainment of 18 or more years of age;
b) documentation of high school graduation or satisfaction of High School Equivalency Certificate requirements;
c) achievement of the 5th grade level in math and the 7th grade level in reading and English as shown on a statistically validated test;
d) completion of application and related procedures;
e) documentation of Georgia Certification as a basic EMT; and
f) documentation of 6 months experience working as a basic EMT.

GENERAL INFORMATION

Program Description

Typical Job Titles

The Emergency Medical Services program is assigned a (PGM) CIP code of (PGM) 17.0206 and is consistent with all other programs throughout the state which have the same (PGM) CIP code. The related D.O.T. job title follows:

079.374-010	Emergency Medical Technician

Document Number:
01-02-04

GENERAL INFORMATION

Program Description

Accreditation and Certification

This program must conform to the institutional accreditation requirements of the Southern Association of Colleges and Schools by meeting Commission on Colleges (COC) or Commission on Occupational Education Institutions (COEI) accreditation requirements and must not conflict with the accreditation criteria established by COC and COEI.

Graduates are prepared to take the state written exam administered by the Composite Board of Medical Examiners. Program requirements meet Georgia Department of Human Resources guidelines for training programs for paramedics and cardiac technicians.

GENERAL INFORMATION

Curriculum Model

Standard Curriculum

The standard curriculum for the Emergency Medical Services program is set up on the quarter system. Technical institutes may implement the Emergency Medical Services program using one of the sequences listed below or using a locally developed sequence designed to reflect course prerequisites and/or corequisites.

Course	Class Hours	Lab Hours	Weekly Contact Hours	Credits
SUGGESTED SEQUENCE I				
FIRST QUARTER				
EMS 103 Introduction to the Paramedic Profession	4	1	5	4
EMS 105 Fluids, Electrolytes, and Shock	2	1	3	2
EMS 106 General Pharmacology	2	1	3	2
ENG 101 English	5	0	5	5
MAT 100 Basic Mathematics	3	0	3	3
	16	3	19	16
SECOND QUARTER				
EMS 107 Respiratory Function and Management	4	1	5	4
EMS 108 Cardiology	8	2	10	9
EMS 109 Trauma	4	2	6	5
	16	5	21	18

Course	Class Hours	Lab Hours	Weekly Contact Hours	Credits
THIRD QUARTER				
EMS 111 Medical Emergencies I	3	0	3	3
EMS 112 Medical Emergencies II	3	0	3	3
EMS 113 OB/GYN	1	1	2	1
EMS 114 Pediatrics	2	1	3	2
EMS 116 Behavioral Emergencies	1	0	1	1
XXX xxx Occupational or Occupationally Related Electives	-	-	-	3
	10	2	12	13
FOURTH QUARTER				
EMS 118 Clinical Application of Advanced Emergency Care	0	36	36	12
	0	36	36	12

Course	Class Hours	Lab Hours	Weekly Contact Hours	Credits
SUGGESTED SEQUENCE II				
FIRST QUARTER				
EMS 103 Introduction to the Paramedic Profession	4	1	5	4
EMS 105 Fluids, Electrolytes, and Shock	2	1	3	2
EMS 106 General Pharmacology	2	1	3	2
ENG 101 English	5	0	5	5
MAT 100 Basic Mathematics	3	0	3	3
	16	3	19	16
SECOND QUARTER				
EMS 107 Respiratory Function and Management	4	1	5	4
EMS 108 Cardiology	8	2	10	9
EMS 109 Trauma	4	2	6	5
EMS 116 Behavioral Emergencies	1	0	1	1
	17	5	22	19

Course	Class Hours	Lab Hours	Weekly Contact Hours	Credits
THIRD QUARTER				
EMS 111 Medical Emergencies I	3	0	3	3
EMS 112 Medical Emergencies II	3	0	3	3
EMS 113 OB/GYN	1	1	2	1
EMS 114 Pediatrics	2	1	3	2
XXX xxx Occupational or Occupationally Related Electives	-	-	-	3
	9	2	11	12
FOURTH QUARTER				
EMS 118 Clinical Application of Advanced Emergency	0	36	36	12
	0	36	36	12

GENERAL INFORMATION

Curriculum Model

General Core Courses

The general core courses provide students with a foundation in the basic skills which enable them to express themselves more clearly, both orally and in writing, and to perform the mathematical functions required in this occupation. The general core courses for the Emergency Medical Services program are listed below.

ENG 101 English	5 Credits
MAT 100 Basic Mathematics	3 Credits

GENERAL INFORMATION

Curriculum Model

Fundamental Occupational Courses

The fundamental occupational courses provide students with a foundation in the area of emergency medical services which is needed to progress to the more highly specialized courses in emergency medical services. The fundamental occupational courses are listed below.

EMS 103	Introduction to the Paramedic Profession	4 Credits
EMS 105	Fluids, Electrolytes, and Shock	2 Credits
EMS 106	General Pharmacology	2 Credits
EMS 107	Respiratory Function and Management	4 Credits
EMS 109	Trauma	5 Credits

GENERAL INFORMATION

Curriculum Model

Specific Occupational Courses

The specific occupational courses build upon the fundamental occupational courses to provide students with the basic knowledge and skill required to work as emergency medical technicians. The specific occupational courses offered in the Emergency Medical Services program are listed below.

EMS 108	Cardiology	9 Credits
EMS 111	Medical Emergencies I	3 Credits
EMS 112	Medical Emergencies II	3 Credits
EMS 113	OB/GYN	1 Credit
EMS 114	Pediatrics	2 Credits
EMS 116	Behavioral Emergencies	1 Credit
EMS 118	Clinical Application of Advanced Emergency Care	12 Credits
	Occupational or Occupationally Related Electives	3 Credits

GENERAL INFORMATION

Curriculum Model

Electives

Elective courses are provided to allow for the different levels of prior knowledge and skills brought to the classroom by students with diverse backgrounds, educational attainment, and specialized interests.

Decisions regarding the selection and appropriateness of any elective are made by the student after consultation with the instructor. Courses from other departments may be taken as electives when considered appropriate for a student's academic circumstances and career goals.

GENERAL CORE

ENG 101 - English

Course Overview

Course Description

Emphasizes the development and improvement of written and oral communication abilities. Topics include: analysis of writing techniques used in selected readings, writing practice, editing and proofreading, research skills, and oral presentation skills. Homework assignments reinforce classroom learning.

Competency Areas

Analysis of Writing Techniques
Used in Selected Readings
Writing Practice
Editing and Proofreading
Research Skills
Oral Presentation Skills

Prerequisite

Program admission level English and reading competency

Credit Hours

5

Contact Hours Per Week

Class - 5

Lab - 0

GENERAL CORE

ENG 101 - English

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
ANALYSIS OF WRITING TECHNIQUES USED IN SELECTED READINGS		**10**	**0**
Review and analysis of various writing techniques	Read and analyze various writing techniques. Read and analyze writing to identify subject and focus. Read and analyze writing to identify supporting information. Read and analyze writing to identify patterns of development, such as time, space, climax, example, process, instructions, definition, comparison/ contrast, cause and effect, classification, and problem-solving.		
WRITING PRACTICE		**20**	**0**
Review of grammar fundamentals	Produce logically organized, grammatically acceptable writing.		
Review of composition fundamentals	Compose a variety of paragraphs, reports, memorandums, and business letters. Demonstrate listening skills by following directions for writing assignments.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
EDITING AND PROOFREADING		**10**	**0**
Review of editing fundamentals	Revise to improve ideas, style, organization, and format, preferably with word processing. Edit to improve grammar, mechanics, and spelling.		
RESEARCH SKILLS		**5**	**0**
Resource materials location and utilization	Utilize library resources to enhance writing.		
ORAL PRESENTATION SKILLS		**5**	**0**
Types of oral presentation participation	Participate in class discussion, small group discussion, and/or individual presentations.		
Role of the listener	Participate as an active listener.		

GENERAL CORE

ENG 101 - English

Resources

Lewis, S. D., Smith, H., Baker, F., Ellegood, G., Kopay, C., & Tanzer, W. (1988). *Writing skills for technical students* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Van Alstyne, J. S. (1986). *Professional and technical writing strategies*. Englewood Cliffs, NJ: Prentice Hall.

GENERAL CORE

MAT 100 - Basic Mathematics

Course Overview

Course Description

Emphasizes basic mathematical concepts. Topics include: mathematical operations with whole numbers, fractions, decimals, percents, ratio/proportion, and measurement using common English and metric units. Class includes lecture, applications, and homework to reinforce learning.

Competency Areas

Mathematical Operations
Fractions
Decimals
Percents
Ratio and Proportion
Measurement and Conversion

Prerequisite

Program admission level math competency

Credit Hours

3

Contact Hours Per Week

Class - 3

Lab - 0

GENERAL CORE

MAT 100 - Basic Mathematics

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
MATHEMATICAL OPERATIONS		**4**	**0**
Addition Subtraction Multiplication Division	Solve whole number problems using basic mathematical skills.		
Symbols Order of operations Properties	Recognize symbols and groupings and use them to solve hierarchy of operations problems with whole numbers.		
FRACTIONS		**11**	**0**
Definition of fractions	Define fractions. Identify proper and improper fractions.		
Equivalent fractions			
Greatest common divisor (GCD)			
Basic operations using fractions	Solve fraction problems using basic multiplication, division, addition, and subtraction operations.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
DECIMALS		**3**	**0**
Definition of decimals and place value			
Basic operations of mathematics with decimals	Solve mathematical problems using decimals.		
Round-off procedures			
Conversion of fractions to decimals and decimals to fractions	Recognize the relationship between fractions and decimals.		
PERCENTS		**3**	**0**
Definition	Solve problems using percents.		
Fractions, decimals, and percents			
Base-rate-part problems	Demonstrate skill in solving base-rate-percent problems.		
RATIO AND PROPORTION		**6**	**0**
Definition of ratio, rates, and proportions	Construct and solve problems involving ratios and proportions.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
MEASUREMENT AND CONVERSION		**3**	**0**
Define base units of length, area, volume, weight, temperature, and time	Determine proper dimensions. Solve basic measurement problems. Convert units within basic systems. Convert between English and metric systems.		

GENERAL CORE

MAT 100 - Basic Mathematics

Resources

Harter, J. J., & Beitzel, W. D. (1988). *Mathematics applied to electronics* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.

Heywood, A. H. (1982). *Arithmetic: A programmed worktext* (4th ed.). Monterey, CA: Brooks/Cole.

Johnston, C. L., Willis, A. T., & Hughes, G. M. (1984). *Essential mathematics* (4th ed.). Perdue, IN: Addison-Wesley.

Keedy, M. L., & Bittinger, M. L. (1986). *Introductory algebra* (5th ed.). Perdue, IN: Addison-Wesley.

Lewis, H. (1986). *Technical mathematics.* Albany, NY: Delmar.

Palmer, C. I., & Mrachek, L. A. (1986). *Practical mathematics* (7th ed.). New York: McGraw-Hill.

Proga, R. (1987). *Basic mathematics* (2nd ed.). Boston, MA: Prindle, Weber & Schmidt.

Washington, A. J., & Triola, M. F. (1984). *Technical mathematics* (3rd ed.). Poughkeepsie, NY: Benjamin-Cummings.

FUNDAMENTAL OCCUPATIONAL

EMS 103 - Introduction to the Paramedic Profession

Course Overview

Course Description

Introduces the student to the paramedic profession and provides an overview of human systems with emphasis on appropriate medical terminology, systems function, and initial patient management. Discussion of the paramedic profession centers on functions that extend beyond those of the basic EMT. Topics include: the role and responsibilities of the paramedic, the emergency medical services system, medical/legal considerations, emergency medical services communications, major incident response, medical terminology, anatomy and physiology, primary and secondary assessment, and early field management. This course provides instruction on topics in Division I, Sections 1, 2, 3, 4, and 6 and Division II, Sections 1 and 2 of the national curriculum.

Competency Areas

Role and Responsibilities of the Paramedic
Emergency Medical Services System
Medical/Legal Considerations
Emergency Medical Services Communications
Major Incident Response
Medical Terminology
Anatomy and Physiology
Primary and Secondary Assessment
Early Field Management

Prerequisite

Provisional admission

Credit Hours

4

Contact Hours Per Week

Class - 4

D.Lab - 1

FUNDAMENTAL OCCUPATIONAL

EMS 103 - Introduction to the Paramedic Profession

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
ROLE AND RESPONSIBILITIES OF THE PARAMEDIC		**1**	**0**
Role	Identify and describe those activities performed by an EMT-Paramedic in the field.		
	Define the role of an EMT-Paramedic.		
	Describe and contrast the difference between an EMT-Ambulance, EMT-Cardiac, and EMT-Paramedic training program.		
Responsibilities	Define the terms ethics and professionalism.		
	Describe the differences between ethical behavior and legal requirements.		
	State specific activities that are most appropriate to ethical behavior.		
	Identify whether a particular activity is unethical and/or illegal, given certain patient care situations.		
	Identify whether a particular activity is ethical or unethical, given certain patient care situations.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Define the term "professional."		
	Define the term "health care professional."		
	Identify whether a particular activity is professional or unprofessional, given certain patient care situations.		
	State certain activities that are most appropriate to professional behavior.		
	List current state requirements for EMT-Paramedic continuing education.		
	Discuss at least three reasons why continuing education is important for the EMT-Paramedic.		
	Describe current state legislation outlining the scope of prehospital Advanced Life Support.		
	State the reason that it is important to keep one's EMT-Paramedic certification current.		
	State the major benefits of subscribing to professional journals.		
	State the benefits of EMT-Paramedics teaching in their community.		
EMERGENCY MEDICAL SERVICES SYSTEM		**2**	**0**
System and prehospital care	Discuss citizen access and the various mechanisms of obtaining it.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab

Discuss prehospital care as an extension of hospital care.

Define stabilization of patients.

Describe medical control.

Describe physician responsibility for medical control.

Describe the relationship between the physician on the scene, the EMT-P, and the physician on the radio, including the physician who is with the patient when the EMT-P arrives and the physician who arrives on the scene after the EMT-P's have started evaluating and treating the patient.

Describe the benefits of EMT-P follow-up on patient condition, diagnosis, and retrospective review of prehospital care.

Describe the American College of Surgeons Essential Equipment List and how it relates to local state laws.

Discuss the medical community role in overseeing prehospital care.

Define protocols and standing orders.

Describe the development of protocols.

Define local training standards.

Describe the legislation in the EMT-P's state as regards prehospital care.

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe integration of prehospital care into the continuum of total patient care with the Emergency Department phase of hospital care.		
	Discuss replacement of equipment and supplies.		
	Discuss the EMT-P's initial responsibilities when arriving on the scene.		
	Describe the relationship between the physician on the radio and the EMT-P at the scene.		
	Discuss the varying philosophies between the prehospital management of medical patients and trauma patients.		
	Describe the transition of patient care from the EMT-P, including transfer of responsibility (legal and medical), and reporting of patient status to the physician or nurse.		
	Describe retrospective evaluation of patient care including run report review, continuing education, skill practice, and skill deterioration.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
MEDICAL/LEGAL CONSIDERATIONS		**2**	**0**
Codes and acts	Discuss the significance and scope of the following in relationship to EMT practice: State Medical Practice Act, Good Samaritan Act/Civil Immunity, state EMS statutes, state motor vehicle codes, and state and local guidelines for "do not resuscitate."		
Terminology	Define negligence, medical liability, tort, duty to act, battery, slander, informed consent, expressed consent, implied consent, abandonment, liable, assault, and false imprisonment.		
Legal considerations	Describe the significance of accurate documentation and record keeping in substantiating an incident. Identify those situations that require the EMT-P to report those incidents to appropriate authorities. Describe the four elements that prove medical liability. Describe the significance of obtaining expressed consent. Describe the extent to which force and restraint may be used to protect the EMT, the patient, and the third party.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
EMERGENCY MEDICAL SERVICES COMMUNICATIONS		**4**	**0**
Communications systems	Describe the phases of communications necessary to complete a typical EMS event.		
	Identify the possible components of an EMS communications system and explain the function of each.		
	Keep base station.		
	Identify factors that affect the coverage of mobile transmitter/receivers.		
	Describe positioning of the antenna on a portable transmitter/receiver to deliver maximum coverage.		
	Describe an advantage of a repeater system over a nonrepeater system.		
	Describe the vehicular repeater system.		
	Describe the purpose of a remote console.		
	Describe the function of a satellite receiver.		
	Describe the function of an encoder and decoder.		
	Define hertz, kilohertz, and megahertz.		
	Distinguish between the terms UHF and VHF.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe simplex, duplex, and multiplex radio systems.		
	Describe the functions and responsibilities of the Federal Communications Commission (FCC).		
	Describe the responsibilities of an EMS dispatcher.		
	List information items that must be gathered from a caller by the dispatcher.		
	Describe the ten-code used in the local community.		
	Describe three communications techniques that influence the clarity of radio transmissions.		
	Describe three communications techniques that influence the content of radio transmissions.		
	Describe the importance of written medical protocols.		
	Describe two purposes of verbal communication of patient information to the hospital.		
	Describe information that should be included in patient assessment information verbally reported to the physician.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Organize a list of patient assessment information in the correct order for radio transmission to the physician according to the format used locally.		
	Name five uses of the written EMS run form.		
MAJOR INCIDENT RESPONSE		**5**	**0**
Terminology	Define the term "major incident."		
	Identify the local communication system.		
	Describe when a major incident should be declared.		
	Describe the preplanning phase function.		
	Describe area response planning.		
	Describe the components of special resources.		
	Describe the function of scene command.		
	Describe the function of scene triage.		
	Describe section and staging management.		
	Describe a system for patient identification.		
	Describe scene medical control.		
	Identify "who's in charge."		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
MEDICAL TERMINOLOGY		**6**	**0**
Definitions and identifications	Define and contrast medical terms.		
	Identify various medical terms given one or more anatomical parts of the body.		
	Identify common medical abbreviations.		
	Identify common root words and determine their meaning.		
	Identify and define common prefixes and suffixes.		
	Locate one or more medical terms in a medical dictionary.		
ANATOMY AND PHYSIOLOGY		**20**	**0**
Respiratory system	Describe the anatomy of the mouth, upper airway, tongue, hypopharynx, trachea, nasopharynx, oropharynx, larynx, and vocal cords.		
	Describe the function of the vocal cords.		
	Describe the flow of air from outside the body into the trachea.		
	Describe the reasons for and mechanism of humidification and warming of the air as it passes through the naso- and oro-pharynx.		
	Describe the anatomy of the lungs, trachea, alveolus, diaphragm, thoracic wall, and pleural space.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the methods and management of an obstructed airway.		
	Describe the gaseous exchange across the alveoli-capillary membrane (O_2 and CO_2).		
	Describe the relationship between: cords and larynx, esophagus and larynx, epiglottis and larynx, tongue and larynx, true cords and false cords, and pharynx and larynx.		
	Discuss red blood cell oxygenation in the lungs based on alveolar O_2 levels and transportation across the alveolar capillary wall.		
	Discuss tissue oxygenation based on tissue profusion and off-loading of oxygen.		
	Describe the function of the structures of the upper respiratory tract.		
	Identify and describe the function of the structures of the lower respiratory tract.		
	Describe the physiology of the respiratory cycle.		
	Describe the pulmonary circulation.		
	Describe the process of gas exchange in the lungs.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Identify the normal partial pressures of oxygen and carbon dioxide in the alveoli and venous and arterial blood.		
	Identify the systems involved in the process of regulation of respiration.		
	Describe the difference between the normal respiratory drive and the respiratory drive of the patient with chronic obstructive pulmonary disease.		
	Describe pathophysiological problems that occur in the airway.		
	Describe the physiology of pulmonary expansion.		
Cardiovascular system	Describe the anatomy of the heart and the cardiovascular system.		
	Describe the problems that occur with decreased perfusion.		
	Describe the anatomy of the skin, bones, vessels, and subcutaneous tissue as it relates to hemorrhage control.		
	Describe perfusion and the mechanisms of improvement of cardiac output based on the strength and rate of contractions.		
	Discuss the role of preload in improving cardiac output.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the fluid component of the cardiovascular system and the relationship between the volume of the fluid and the size of the container.		
	Discuss afterload (systemic vascular resistance), the relationship of diastolic pressure to the SVR, and the effect of diastolic pressure on coronary circulation.		
	Discuss the container size in its relationship to the fluid volume and the effect on preload.		
	Describe the size, shape, and location/orientation of the heart muscle.		
	Identify the location and function of the following structures on a diagram of the normal heart: pericardium, pulmonary vessels, myocardium, coronary arteries, epicardium, tricuspid valve, right and left atria, mitral valve, interatrial septum, aortic valve, right and left ventricles, pulmonic valve, intraventricular septula, papillary muscles, superior and inferior vena cava, chordae tendinae, and aorta.		
	Describe the distribution of the coronary arteries and the parts of the heart supplied by each artery.		
	Differentiate between the arterial and venous blood vessels as regards their structure and function.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Name and describe the location of five major arteries and five major veins.		
	Describe the structure and function of capillaries.		
	Describe the course of blood flow through the normal heart and lungs.		
	Describe the cardiac cycle in terms of mechanical function and relative position of heart valve.		
	Describe the functional differences between the right heart and left heart pumps.		
	Define the following terms that refer to cardiac physiology: stroke volume, afterload, Starling's law, cardiac output, preload, and blood pressure.		
	Describe nerve innervation of the heart.		
	Identify the chemical mediator of the parasympathetic nervous system and its primary effect on the heart.		
	Identify the chemical mediator of the sympathetic nervous system and the mechanical, cardiac, and peripheral effects of Alpha receptor stimulation and Beta receptor stimulation.		
	Name major electrolytes that affect cardiac function.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the electrical properties of the heart.		
	Describe the normal sequence of electrical conduction through the heart and the purpose of this conduction system.		
Fluids	Discuss body fluids based on total body water, intracellular fluid, and extracellular fluid.		
	Identify the significant anions and cations in the body.		
	Describe the role of protein.		
	Discuss osmosis.		
	Discuss semipermeable membranes and their function.		
	Define isotonic fluids, hypotonic fluids, and hypertonic fluids.		
	Discuss diffusion.		
	Define active transport.		
	Describe the mechanisms of concentration of electrolytes.		
	Define the movement of body fluids between plasma and interstitial compartments.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Define the movement of body fluids between interstitial and intercellular compartments.		
Head and neck	Describe the relationship of the cervical spine to airway management.		
	Describe the anatomy of the head and face.		
	Describe the anatomy of the cervical spine.		
	Describe the anatomy of the neck.		
Chest and abdomen	Describe the anatomy of the thoracic cavity.		
	Describe the anatomy of the abdomen.		
	Describe the physiology of the abdomen.		
Upper and lower extremities	Describe the anatomy of the upper and lower extremities.		
Integumentary system	Describe the structure of the integumentary system.		
	Describe the function of the integumentary system.		
Endocrine system	Define hormone.		
	Discuss hormone production, including function and the single-most factor influencing production.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the pituitary gland, including its location and the function of the anterior pituitary gland and posterior pituitary gland.		
	Discuss the thyroid gland, including the location and function of the parathyroid gland.		
	Discuss the adrenal glands, including the location and function of the adrenal cortex and adrenal medulla.		
	Discuss the pancreas, including its structure, location, and function.		
	Discuss the ovaries, including their location and the function of estrogen and progesterone.		
	Discuss the testes, including their location and function.		
	Discuss the function of insulin, including absorption of glucose/insulin secretion to glucose, insulin secretion, glucose metabolism, and return to homeostasis.		
	Discuss the two functions of the islets of Langerhans.		
Nervous system	Identify the parts of neurons and describe their function.		
	Describe the process of impulse transmission for nerve cells.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the types of nerve cells by function.		
	Identify and describe the protective mechanisms of the brain.		
	Describe the arterial and venous circulation to the brain.		
	Locate the following areas of specialization in the brain: speech, vision, personality, balance and coordination, sensory, and motor.		
	List the parts of the brain.		
	Identify the functions of the spinal cord.		
	Describe the protective mechanisms for the spinal cord.		
	Identify the divisions of the spinal column.		
	Identify the divisions of the spinal cord.		
	Identify the location of the brachial plexus and the lumbar-sacral plexus.		
	Describe the divisions of the autonomic nervous system and the functions and effects of each.		
Abdomen	Discuss the function of the primary gastrointestinal organs: mouth, pharynx, esophagus, stomach, intestines (large/small), rectum, and peritoneum.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the function of the gastrointestinal accessory organs, including salivary glands, teeth, liver, gallbladder, pancreas, and vermiform appendix.		
	Name the organs located in the right upper quadrant, left upper quadrant, right lower quadrant, and left lower quadrant.		
	Describe the borders of the abdominal cavity.		
	Name the two major blood vessels in the abdomen.		
	List solid organs in the abdominal cavity and retroperitoneal space.		
	List hollow organs in the abdominal cavity and retroperitoneal space.		
	Describe the location and function of the ovaries, fallopian tubes, uterus, vagina, cervix, perineum, labia, and endometrium.		
PRIMARY AND SECONDARY ASSESSMENT		**0**	**5**
Environmental considerations	Establish priorities of care based on threat to life conditions.		
	Describe the four phases of patient assessment.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the possible environmental hazards that the EMT may encounter and the means of protecting him/herself in this environment.		
	Describe the environmental hazards which a patient might encounter.		
	Describe the mechanisms of stabilizing an automobile to prevent injury while extricating the patient.		
	Describe the problems an EMT-P might encounter in a hostile situation and the mechanisms of management.		
	Describe the types of protective equipment available to the EMT-P for self protection and patient protection.		
	Discuss the appropriate methods of patient protection in each situation.		
	Describe the emergency situations the EMT may encounter and the management of each.		
	Discuss backup personnel, transportation, and equipment.		
	Describe the various classifications of emergencies which an EMT will encounter, based on medical needs.		
	Discuss how assessment and management differ.		
Primary survey	Describe the primary survey and what areas are critical to evaluate.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the techniques for evaluating the effectiveness of ventilation.		
	Describe the mechanisms of evaluating the effectiveness of perfusion, including pulse, skin color, and capillary refill.		
	Define a mini-neurological examination (level of consciousness).		
	Describe exposing the patient's body for total evaluation.		
	Describe the reasons for and mechanisms of patient reassessment in the resuscitation phase.		
Secondary survey	Define the components of secondary survey and its benefits for patient evaluation.		
	Describe the assessment of the head, neck, thorax, abdomen, extremities, and nervous system.		
	Describe the trauma score, its usefulness, and how it is accomplished.		
	Discuss the important components which must be identified in taking an appropriate history from a patient.		
	Describe when blood samples should be taken prior to the IV being started.		
	Describe the definitive care phase.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe how the patient is monitored en route to the hospital.		
	Describe the mechanisms of continued evaluation of the patient en route to the hospital.		
EARLY FIELD MANAGEMENT		**0**	**5**
Airway management	Describe the pathological conditions that can occur in the nose, pharynx, and larynx to obstruct or retard air flow.		
	Identify the complications of laryngeal fracture.		
	Describe the methods of airway management.		
	Describe the management of an obstructed airway.		
	Describe the mechanical methods of airway management including the benefits and limitations of oral, nasal, and EOA.		
	Describe the trans-tracheal mechanisms of airway ventilation, including the benefits and limitations.		
	Describe how the cervical spine is protected throughout these maneuvers.		
Ventilation	Describe how pulmonary ventilation (inhalation and exhalation) is accomplished.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Describe the pulmonary problems that can complicate exhalation and inhalation, the mechanisms by which they reduce ventilation and management of each problem, including open pneumothorax, diaphragmatic injury closed pneumothorax (simple and tension), and flail chest.		
	Describe the problems of ventilation.		
	Define mouth to mask ventilation, its benefits and limitations.		
	Discuss the bag-valve mask, its benefits and limitations.		
	Discuss ventilation with an EOA (benefits and limitations).		
	Discuss ventilation with an endotracheal tube (benefits and limitations).		
Hemorrhage control	Discuss the benefits and complications of hemorrhage control by direct pressure, tourniquets, and hemostats.		
Patient management	Describe how a patient is packaged and stabilized for transportation to the hospital, including airway ventilation, IV fluids, pneumatic antishock garment, fracture stabilization, and bandaging.		
	Describe how the patient is immobilized to the backboard.		
	Describe how the patient is immobilized to the stretcher and to the ambulance.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe patient extrication.		
	Describe how the patient is monitored en route to the hospital.		
	Describe how the hospitals are selected for receipt of patients based on patient need and hospital capability.		
	Describe the benefits and complications of lights and sirens and when this should be used.		
	Describe the interaction between the EMT and Medical Command Authority in regard to receiving hospital, family physician on the scene, bystander physician on the scene, orders for patient care, needs of the family, and needs of the patient.		
	Describe the usefulness of a run report.		

FUNDAMENTAL OCCUPATIONAL

EMS 103 - Introduction to the Paramedic Profession

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Brown, K. R., & Jacobsen, S. (1988). *Mastering dysrhythmias: A problem solving guide.* Philadelphia: Davis.

Campbell, J. E. (1988). *Basic trauma life support.* Englewood Cliffs, NJ: Prentice Hall.

Caroline, N. L. (1987). *Ambulance calls: Review problems in emergency care* (2nd ed.). Boston: Little.

Caroline, N. L. (1987). *Emergency care in the streets* (3rd ed.). Boston: Little.

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Childs, B. J., & Ptacnik, D. (1986). *Emergency ambulance driving.* Englewood Cliffs, NJ: Prentice Hall.

DoCarmo, P. (1988). *Basic EMT skills and equipment: Techniques and pitfalls*. St. Louis: Mosby.

Goldstein, A. (1983). *EMS and the law: A legal handbook for EMS personnel.* Englewood Cliffs, NJ: Prentice Hall.

Grauer, K., & Cavallaro, D. (1987). *ACLS preparation and a comprehensive review.* St. Louis: Mosby.

Greenwald, J. (1988). *The paramedic manual.* Englewood, CO: Morton.

Hanes, T., & Hanes, C. (1984). *Examination preparation*. Englewood Cliffs, NJ: Prentice Hall.

Hanna, J. (1981). *Ambulance and EMS driving*. Englewood Cliffs, NJ: Prentice Hall.

Mitchell, J., & Resnik, H. L. (1981). *Emergency response to crisis.* Englewood Cliffs, NJ: Prentice Hall.

Shade, B., & Alspach, J. G. (1988). *Advanced cardiac life support certification preparation and review* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

Walraven, G. (1987). *Basic arrhythmias* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

FUNDAMENTAL OCCUPATIONAL

EMS 105 - Fluids, Electrolytes, and Shock

Course Overview

Course Description

Emphasizes the pathophysiology of shock and the functions and characteristics of body fluids. Topics include: cardiovascular anatomy and physiology; fluid and electrolyte balance; and classification, assessment, and management of shock. This course provides instruction on topics in Division II, Section 4 of the national curriculum.

Competency Areas

Cardiovascular Anatomy and Physiology
Fluid and Electrolyte Balance
Classification, Assessment, and Management of Shock

Prerequisite

Program admission

Prerequisite/Corequisite

EMS 103

Credit Hours

2

Contact Hours Per Week

Class - 2

D.Lab - 1

FUNDAMENTAL OCCUPATIONAL

EMS 105 - Fluids, Electrolytes, and Shock

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
CARDIOVASCULAR ANATOMY AND PHYSIOLOGY		**5**	**0**
Blood characteristics and components	Discuss red blood cell oxygenation in the lungs based on alveolar O_2 levels and transportation across the alveolar capillary wall. Discuss tissue oxygenation based on tissue profusion and off-loading of oxygen. Describe perfusion and the mechanisms of improvement of cardiac output based on the strength and rate of contractions. Discuss the role of preload in improving cardiac output. Discuss the fluid component of the cardiovascular system and the relationship between the volume of the fluid and the size of the container. Discuss afterload (systemic vascular resistance), the relationship of diastolic pressure to the SVR, and the effect of diastolic pressure on coronary circulation.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Discuss the container size in its relationship to the fluid volume and the effect on preload.		
	Identify the role of the baroreceptor.		
	Describe how the actions of the baroreceptor affect blood pressure and perfusion.		
General principles applicable to body fluids	Discuss body fluids based on total body water, intracellular fluid, and extracellular fluid.		
	Describe the role of protein.		
	Discuss osmosis.		
	Define semipermeable membranes and discuss their function.		
	Identify the significant anions and cations in the body.		
	Define isotonic fluids, hypotonic fluids, and hypertonic fluids.		
	Discuss diffusion.		
	Define active transport.		
	Describe the mechanisms of concentration of electrolytes.		
FLUID AND ELECTROLYTE BALANCE		**4**	**0**
Acid-base balance	Define acid-base balance.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Discuss acid-base balance based on hydrogen ion concentration, pH, and buffer systems.		
	Discuss the following: respiratory acidosis, respiratory alkalosis, metabolic acidosis, and metabolic alkalosis.		
Hydration, dehydration, overhydration	Discuss fluid replacement, the types of fluid that are available, and the benefits and detrimental effects of each.		
	Discuss how fluid replacement is monitored and controlled.		
Electrolytes	Identify the significant anions and cations in the body.		
CLASSIFICATION, ASSESSMENT, AND MANAGEMENT OF SHOCK		**11**	**10**
Types of shock and pathophysiology	Define shock based on aerobic and anaerobic metabolism.		
	Describe compensated shock.		
	Discuss the effects of decreased perfusion at the capillary level, both on the capillary lining as well as the cell, including a discussion of increased interstitial fluid.		
	Describe the three phases in the capillary cellular relationship (ischemia, stagnant, and washout).		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe how anaerobic metabolism at the cellular level can lead to death several days later.		
	Describe the mechanism of the body response to perfusion change.		
	Identify the role of the baroreceptor.		
	Describe how the actions of the baroreceptor affect blood pressure and perfusion.		
	Describe uncompensated shock, both cardiac and peripheral effects.		
	Define management based on the Fick Principle.		
	Discuss the prevention of anaerobic metabolism.		
Assessment	Discuss the role played by respiration, inadequate ventilation in the management of shock.		
	Discuss the evaluation of the patient's perfusion status, based on physical observations within the primary survey, including pulse, skin, temperature, and capillary refill.		
	Discuss the relationship of the neurological exam to evaluation of hypoperfusion and oxygenation.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the information provided by the following in a physical examination: pulse, blood pressure, diastolic pressure, systolic pressure, skin color, appearance, temperature, and respiration.		
Management	Discuss resuscitation of a shocky patient, including red cell oxygenation, tissue ischemic sensitivity, IV fluids, and the pneumatic antishock garment.		
	Describe the beneficial and detrimental effects of the pneumatic antishock garment.		
	Describe the indications and contraindications for the pneumatic antishock garment.		
	Discuss fluid replacement, the types of fluid that are available, and the benefits and detrimental effects of each.		
	Discuss how fluid replacement is monitored and controlled.		
	Discuss the routes of fluid replacement and the advantages and disadvantages of each.		
	Demonstrate the steps of shock resuscitation in the order of priority.		
	Demonstrate the use of the pneumatic antishock garment.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the indications and contraindications of the pneumatic antishock garment and how it affects the patient in each.		
Blood transfusion reaction	Discuss fluid replacement, the types of fluid that are available, and the benefits and detrimental effects of each.		

FUNDAMENTAL OCCUPATIONAL

EMS 105 - Fluids, Electrolytes, and Shock

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

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Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

FUNDAMENTAL OCCUPATIONAL

EMS 106 - General Pharmacology

Course Overview

Course Description

Provides a study of the principles and procedures necessary for the proper use and administration of pharmaceuticals in emergency medical care. Topics include: identification of drugs, drug calculations, drug administration techniques and procedures, and drug safety and standards. This course provides instruction on topics in Division II, Section 5 of the national curriculum.

Competency Areas

Identification of Drugs
Drug Calculations
Drug Administration Techniques and Procedures
Drug Safety and Standards

Prerequisite

Program admission

Prerequisites/Corequisites

EMS 103, EMS 105, MAT 100

Credit Hours

2

Contact Hours Per Week

Class - 2

D.Lab - 1

FUNDAMENTAL OCCUPATIONAL

EMS 106 - General Pharmacology

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
IDENTIFICATION OF DRUGS		**5**	**0**
Terminology and abbreviations	Name and contrast the various names of a drug (i.e., generic vs. trade name vs. official vs. chemical). Define the following terms: capsules, vials, fluid extracts, powders, suppositories, tinctures, pills, ointments, spirits, tablets, lozenges, suspensions, ampules, and solutions. Identify local and general or systemic effects of drugs. Identify and discuss the following nine items as they relate to the administration of any drug: dose, indications and use, dilution, precautions, action, incompatibility, contraindications, side effects, and antidotes.		
Drug sources, functions, and classifications	Name and differentiate the sources of various drugs. List and compare the following factors on the action of drugs: age of patient, condition of patient, dosage, absorption rate, distribution, and elimination (excretion).		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Define the following terms: depression, cumulative effect, physiological, tolerance, therapeutic, synergism, untoward, potentiation, initiation, additive, antagonism, habituation, idiosyncrasy, hypersensitivity, indication, contraindication, and side effect.		
	Rank the five methods of absorption from fastest to slowest.		
	Name the five routes in which drugs are absorbed.		
	Identify those pharmaceutical preparations used internally.		
Drug packaging	Identify and state the given dosage of prepackaged pharmaceutical preparations.		
Drug laws and regulations	State why drug standards are necessary.		
	Identify those agencies that are responsible for regulating drugs and provide examples.		
Drug references	State the purpose and use(s) of the *Physician's Desk Reference* (PDR).		
DRUG CALCULATIONS		**6**	**0**
Systems of weights and measures	List the two systems of weights and measures being used today.		
	Determine which weights and measures belong to the apothecary system or to the metric system.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	State three advantages of the metric system.		
Metric and apothecary conversion	Demonstrate the conversion of various measures between milligrams to grams.		
	Calculate how many tablets should be given to a patient, given a drug dose in milligrams and its specific concentration in tablet form.		
	Demonstrate the conversion of various measures between milliliters to liters.		
	Demonstrate the conversion of various measures between pounds to kilograms.		
Dosage calculations	Calculate the volume of a drug to be administered, given a desired dose and concentration of a drug.		
	Calculate the appropriate drug dosage for the patient, given the weight of a patient in pounds and a drug dose in milligrams per kilogram.		
	State the number of macro and micro drops/cc.		
	State the formula used to determine the flow rate.		
	Determine the number of micro and/or macro drips per minute, given a rate of infusion for an IV fluid.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
DRUG ADMINISTRATION TECHNIQUES AND PROCEDURES		**8**	**10**
Routes of administration	State four routes of drug administration.		
	Identify four routes of parenteral drug administration.		
	State the advantages and/or disadvantages of IV injections, subcutaneous injections, and intramuscular injections.		
Administration of intramuscular and subcutaneous injections	Describe the different types and sizes of syringes and needles and the advantages and disadvantages of each.		
	Describe the proper approach and explanation that should be given to a patient prior to the administration of a medication.		
	State what information should be elicited from a patient prior to administration of a medication.		
	State why ampule tops should be tapped before they are used.		
	State why air must be taken into the syringe when drawing a solution from a vial.		
	Describe why the skin is pinched when administering a subcutaneous injection.		
	Describe why the skin is stretched when administering an intramuscular injection.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Withdraw a given amount of solution, given the dose, from an ampule or vial.		
	Assemble a prepackaged syringe.		
	Perform subcutaneous and intramuscular injections at any one of several locations.		
Administration of intravenous medications	State why the IV tube is pinched off above the injection site when performing an IV push.		
	Perform an IV push and inject a specified dose of medication into an already established IV line.		
DRUG SAFETY AND STANDARDS		**1**	**0**
Safety considerations	Name at least eight safety considerations to remember when administering drugs.		
	State what information should be elicited from a patient prior to administration of a medication.		
Standards	Describe local guidelines for drug administration.		
	State why drug standards are necessary.		
	Identify those agencies that are responsible for regulating drugs and provide examples.		

FUNDAMENTAL OCCUPATIONAL

EMS 106 - General Pharmacology

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

DoCarmo, P. (1988). *Basic EMT skills and equipment: Techniques and pitfalls.* St. Louis: Mosby.

Goldstein, A. (1983). *EMS and the law: A legal handbook for EMS personnel.* Englewood Cliffs, NJ: Prentice Hall.

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Greenwald, J. (1988). *The paramedic manual.* Englewood, CO: Morton.

Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

FUNDAMENTAL OCCUPATIONAL

EMS 107 - Respiratory Function and Management

Course Overview

Course Description

Provides an in-depth study of the anatomical and physiological foundation of respiration and the assessment and management of respiratory pathophysiology and distress. Topics include: anatomy and physiology of the respiratory system, respiratory assessment, airway and ventilation management, and respiratory disease. This course provides instruction on topics in Division IV, Section 1 and Division II, Section 3 of the national curriculum.

Competency Areas

Anatomy and Physiology of the Respiratory System
Respiratory Assessment
Airway and Ventilation Management
Respiratory Disease

Prerequisites

Program admission, EMS 103

Credit Hours

4

Contact Hours Per Week

Class - 4

D.Lab - 1

FUNDAMENTAL OCCUPATIONAL

EMS 107 - Respiratory Function and Management

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
ANATOMY AND PHYSIOLOGY OF THE RESPIRATORY SYSTEM		**5**	**0**
Upper and lower airway structure	Describe the function of the structures of the upper respiratory tract.		
	Describe the anatomy of the mouth, hypopharynx, trachea, and larynx.		
	Describe the relationship between cords and larynx, esophagus and larynx, epiglottis and larynx, tongue and larynx, true cords and false cords, and pharynx and larynx.		
Structure and function of the lungs	Identify the function of the structures of the lower respiratory tract.		
	Describe the pulmonary circulation.		
Gas exchange and transport	Define the terms respiration and pulmonary ventilation.		
	Describe the physiology of the respiratory cycle.		
	Describe the process of gas exchange in the lungs.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Identify the normal partial pressures of oxygen and carbon dioxide in the alveoli, venous blood, and arterial blood.		
	List normal respiratory rates for adults, infants, and children.		
	Identify factors that affect respiratory rates.		
	Identify factors that alter carbon dioxide levels in the blood.		
	Identify factors that alter oxygen levels in the blood.		
Control of respiration	Identify the systems involved in the process of regulation of respiration.		
	Describe the difference between the normal respiratory drive and the respiratory drive of the patient with chronic obstructive pulmonary disease.		
Terminology	Describe the following modified forms of respiration: cough, sneeze, hiccough, sigh, and grunting.		
	Define dead space, tidal volume, minute volume, and vital capacity.		
	Define hypoxia, hyperpnea, hypoxemia, orthopnea, hypercarbia, apnea, respiratory failure, hypoventilation, cyanosis, hyperventilation, dyspnea, tracheal tugging, tachypnea, and nasal flaring.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Define snoring respirations, stridor, wheezing, rhonchi, rales, and friction rub.		
RESPIRATORY ASSESSMENT		**5**	**0**
History	Identify the historical factors to be elicited when evaluating the respiratory system.		
	Demonstrate the ability to obtain an appropriate history when evaluating patients with respiratory complaints.		
Physical assessment	Identify specific observations and physical findings to be evaluated in the patient with a respiratory complaint.		
	Describe the techniques of inspection, auscultation, and palpation of the chest.		
	Demonstrate the techniques of inspection, auscultation, and palpation in examining the thorax.		
	Identify the following abnormal lung sounds: stridor, wheezes, rales, and rhonchi.		
AIRWAY AND VENTILATION MANAGEMENT		**20**	**8**
Basic techniques	Identify the basic principles of airway management.		
	Demonstrate the ability to perform an appropriate assessment when evaluating patients with respiratory complaints.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Identify the causes of upper airway obstruction, the pathophysiology, assessment, and management of each.		
Advanced invasive techniques	Demonstrate the technique of direct laryngoscopy.		
	Demonstrate the upper airway obstruction protocol according to American Heart Association standards.		
	Describe the laryngoscope, suction, endotracheal tube, and bag-valve mask.		
	Discuss indications and contraindications of endotracheal intubation.		
	Discuss alternatives to endotracheal intubation.		
	Discuss skill deterioration and methods of prevention.		
	Discuss need for rapid placement of an endotracheal tube.		
	Discuss methods of assuring and maintaining correct placement of an endotracheal tube.		
	Demonstrate ventilation with a bag-valve mask.		
	Demonstrate placement of an endotracheal tube within no more than 45 seconds.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Demonstrate ventilation with a bag-valve and an endotracheal tube on a mannequin.		
	Demonstrate reventilation for missed intubation.		
RESPIRATORY DISEASE		**10**	**2**
Pathophysiology	Discuss the pathophysiology, assessment, and management of emphysema, chronic bronchitis, adult and pediatric asthma, pneumonia, toxic inhalation, pulmonary embolism, hyperventilation syndrome, and central nervous system dysfunctions.		
	Demonstrate the ability to perform an appropriate assessment when evaluating patients with respiratory complaints.		
	Demonstrate the ability to obtain an appropriate history when evaluating patients with respiratory complaints.		
	Identify the following abnormal lung sounds: stridor, wheezes, rales, and rhonchi.		
	Identify the pharmacology and actions, the indications, precautions, administration, and side effects for the adult and pediatric patient for the following medications: oxygen, epinephrine, bronksol, racemic epinephrine, aminophylline, and diphenhydramine.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Demonstrate the ability to appropriately administer the following medications to the adult and pediatric patient: oxygen, epinephrine, bronksol, racemic epinephrine, aminophylline, and diphenhydramine.		

FUNDAMENTAL OCCUPATIONAL

EMS 107 - Respiratory Function and Management

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Campbell, J. E. (1988). *Basic trauma life support.* Englewood Cliffs, NJ: Prentice Hall.

Caroline, N. L. (1987). *Ambulance calls: Review problems in emergency care* (2nd ed.). Boston: Little.

Caroline, N. L. (1987). *Emergency care in the streets* (3rd ed.). Boston: Little.

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Childs, B. J., & Ptacnik, D. (1985). *Emergency ambulance driving.* Englewood Cliffs, NJ: Prentice Hall.

DoCarmo, P. (1988). *Basic EMT skills and equipment: Techniques and pitfalls.* St. Louis: Mosby.

Goldstein, A. (1983). *EMS and the law: A legal handbook for EMS personnel.* Englewood Cliffs, NJ: Prentice Hall.

Grauer, K., & Cavallaro, D. (1987). *ACLS preparation and a comprehensive review.* St. Louis: Mosby.

Greenwald, J. (1988). *The paramedic manual.* Englewood, CO: Morton.

Hanna, J. (1981). *Ambulance and EMS driving.* Englewood Cliffs, NJ: Prentice Hall.

Mitchell, J., & Resnik, H. L. (1981). *Emergency response to crisis.* Englewood Cliffs, NJ: Prentice Hall.

Siegel, B. M. (1981). *Reviewing basic EMT skills: A guide for self-evaluation.* Akron, OH: Educational Direction.

Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

FUNDAMENTAL OCCUPATIONAL

EMS 109 - Trauma

Course Overview

Course Description

Introduces student to assessment and management of trauma patients. Topics include: systematic approaches to the assessment and management of trauma, such as basic trauma life support (BTLS) and pre-hospital trauma life support (PHTLS); anatomy and physiology of the integumentary system, the major internal organs, the types of soft tissue injuries and their management, the types of musculoskeletal injuries and their management, and the classification and care of burns. This course provides instruction on topics in Division I, Section 5 and Division III, Sections 1 and 2 of the national curriculum.

Competency Areas

Systematic Approaches to the Assessment
and Management of Trauma (BTLS, PHTLS)
Anatomy and Physiology of the Integumentary System
Classification and Care of Burns
Rescue

Prerequisite/Corequisite

EMS 105

Credit Hours

5

Contact Hours Per Week

Class - 4

D.Lab - 2

FUNDAMENTAL OCCUPATIONAL

EMS 109 - Trauma

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
SYSTEMATIC APPROACHES TO THE ASSESSMENT AND MANAGEMENT OF TRAUMA (BTLS, PHTLS)		**27**	**0**
Introduction to trauma	Describe the general needs of the trauma patient and the steps within each area of need which must be addressed.		
	Describe the areas in which trauma care is rendered and a general overview of care in each of those areas.		
	Define the priorities of trauma management.		
	Describe triage with multiple patients.		
	Describe the steps in the general assessment of patient care.		
	Describe the steps in the primary survey of patient care.		
	Describe the anatomy of the airway.		
	Describe the anatomy of the cervical spine.		
	Describe the physiology of the airway.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe pathophysiological problems that occur in the airway.		
	Describe the management of the airway in relationship to the individual pathophysiological problems that occur.		
	Describe the relationship of the cervical spine to airway management.		
	Describe how the airway is managed protecting the cervical spine.		
	Describe how a patient is exposed for examination.		
	Describe when a patient should and should not be exposed for such assessment.		
	Describe how assessment can be completed with only a partially exposed patient.		
	Describe the various steps in the assessment of the effectiveness of resuscitation techniques.		
	Describe the components of a complete prehospital history and the significance of each.		
	Describe the components of the history that are important prehospital and those that are not.		
	Describe the general overview of a physical examination.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Bleeding/Shock	Describe the management of circulatory and hemorrhage problems.		
	Describe the anatomy of the heart and cardiovascular system.		
	Describe the physiology and pathophysiology of shock.		
	Describe the assessment of circulatory sufficiency.		
	Describe those components of assessment which are most easily obtained in the primary survey and their individual significance.		
	Describe the management of perfusion problems.		
	Describe the methods of hemorrhage control that should be used in the prehospital setting and those that should not and why.		
Neurological	Describe the mini-neurological exam.		
	Describe the mini-neurological exam in relationship to perfusion and cerebral injury and the management steps that must be taken to solve these problems.		
Head injuries	Describe the physical examination as it relates to the head.		
	Describe the anatomy of the head and face.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe those pathophysiologic conditions that require prehospital assessment and management.		
	Describe the assessment of the head.		
	Describe the management of the pathophysiologic conditions of the head.		
	Describe the specific head injuries that compromise the airway and why.		
	Describe specific head injuries that produce hemorrhage and how they are managed.		
Spinal cord	Describe the physical examination of the neck.		
	Describe the anatomy of the neck.		
	Describe the pathophysiology of neck injuries.		
	Describe the assessment of the neck.		
	Describe the management of the neck.		
Chest	Describe the anatomy of the chest.		
	Describe the physiology of pulmonary expansion.		
	Describe those pathophysiological conditions that limit ventilation and pulmonary expansion.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the assessment of ventilation and the various pathological conditions that can compromise this ventilation.		
	Describe the management of compromised ventilations.		
	Describe the management of conditions that compromise pulmonary expansion.		
	Describe the advantages and disadvantages of the various ventilation techniques and devices.		
	Describe a pneumothorax and its three variations.		
	Describe the general examination of the thoracic cavity.		
	Describe the anatomy of the thoracic cavity.		
	Describe the physiology of the thoracic cavity, including ventilation, respiration, and acid-base balance.		
	Describe the assessment of the thoracic cavity.		
	Describe the stethoscope, how it works, and its uses in the physical examination.		
	Describe how the physical examination of the thoracic cavity is conducted in steps and the various pathophysiologic processes that each step can identify.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the prehospital management and pathophysiology of a pneumothorax, tension pneumothorax, and an open pneumothorax.		
	Describe the management of a flail chest.		
	Describe the pathophysiology of a flail chest.		
	Describe a hemothorax and the prehospital significance of such a condition.		
	Describe a pulmonary contusion and its prehospital significance and management.		
	Describe cardiac tamponade based on anatomy, physiology, pathophysiology, and management.		
	Describe the hospital versus prehospital management of a cardiac tamponade.		
	Describe cardiac contusion, including anatomy, pathophysiology, methods of assessment, significance of dysrhythmias that occur, and its management.		
Abdomen	Describe the abdominal examination and the significance of the abdominal pathology in the prehospital phase.		
	Describe the anatomy of the abdomen.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the physiology of the abdomen.		
	Describe the pathophysiologic processes of the abdomen that affect prehospital care.		
	Describe the assessment of the abdomen.		
	Describe the management of these pathological processes.		
Extremities	Describe the management of extremity injuries, both upper and lower.		
	Describe the anatomy of the upper and lower extremities.		
	Describe the pathophysiological processes that affect the upper and lower extremities.		
	Describe the management of fractures.		
	Describe the management of dislocations, explaining which should be reduced prehospital, which should not, and why.		
	Describe the management for lacerations.		
ANATOMY AND PHYSIOLOGY OF THE INTEGUMENTARY SYSTEM		**5**	**0**
Structure	Describe the structure of the integumentary system.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Function	Describe the function of the integumentary system.		
CLASSIFICATION AND CARE OF BURNS		**4**	**0**
Classification	State the four major sources of burn injury.		
	Describe the four classifications of burn injury.		
	Describe the three categories of burn injury by severity.		
	List the factors altering severity of burn injury.		
	Given a diagram, calculate the percentages of body surface areas burned.		
	Describe the pathophysiology of burn shock.		
Care	List and describe one of two fluid resuscitation formulas.		
RESCUE		**4**	**20**
Management skills	Perform a physical examination of the thorax.		
	Perform a physical examination of the abdomen.		
	Perform a physical examination of the upper extremities.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Perform a physical examination of the lower extremities.		
	Perform a physical examination of the pelvis.		
	Perform a neurological examination.		
	Perform the application of a short backboard.		
	Perform the application of a long backboard.		
	Perform splinting techniques for the upper extremities.		
	Perform splinting techniques for the lower extremities.		
	Perform needle chest decompression.		
	Perform the immobilization of the cervical spine.		
	Perform a rapid extrication.		
	Perform the application of a cervical collar.		
	Perform the insertion of an ET tube in the trauma patient.		
	Perform the insertion of an ET tube in the nontrauma patient.		
	Perform a reduction of a knee dislocation.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Perform a reduction of a shoulder dislocation.		
	Perform a reduction of a finger dislocation.		
	Perform a reduction of a fracture/dislocation of the ankle.		

FUNDAMENTAL OCCUPATIONAL

EMS 109 - Trauma

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Campbell, J. E. (1988). *Basic trauma life support.* Englewood Cliffs, NJ: Prentice Hall.

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Mitchell, J., & Resnik, H. L. (1981). *Emergency response to crisis.* Englewood Cliffs, NJ: Prentice Hall.

Siegel, B. M. (1981). *Reviewing basic EMT skills: A guide for self-evaluation.* Akron, OH: Educational Direction.

Simon, J. (1988). *Prehospital pediatric life support manual.* St. Louis: Mosby.

SPECIFIC OCCUPATIONAL

EMS 108 - Cardiology

Course Overview

Course Description

Emphasizes the study of the cardiovascular system, electrocardiography, and cardiovascular treatment methods. Topics include: cardiovascular anatomy and physiology; principles of electrocardiography; recognition of cardiac dysrhythmias; assessment and management of cardiovascular emergencies; methods of emergency cardiovascular treatment such as pharmacologic intervention, defibrillation, and cardioversion; and ACLS skills. This course provides instruction on topics in Division IV, Section 2 of the national curriculum.

Competency Areas

Cardiovascular Anatomy and Physiology
Principles of Electrocardiography
Recognition of Cardiac Dysrhythmias
Assessment and Management of Cardiovascular Emergencies
Emergency Resuscitative Treatment
ACLS Skills

Prerequisites

Program admission, EMS 103

Credit Hours

9

Contact Hours Per Week

Class - 8

D.Lab - 2

SPECIFIC OCCUPATIONAL

EMS 108 - Cardiology

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
CARDIOVASCULAR ANATOMY AND PHYSIOLOGY		**10**	**0**
Structure and function	Describe the size, shape, and location/orientation of the heart in relationship to other body structures. Describe the location and function of the pericardium, pulmonary vessels, myocardium, coronary arteries, epicardium, tricuspid valve, right and left atria, mitral valve, interatrial septum, aortic valve, right and left ventricles, pulmonic valve, intraventricular septula, papillary muscles, superior and inferior vena cava, chordae tendinae, and aorta. Describe the distribution of the coronary arteries and the parts of the heart supplied by each artery. Differentiate between the arterial and venous blood vessels as regards their structure and function. Describe the location of five major arteries and five major veins. Describe the structure and function of capillaries.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the course of blood flow through the normal heart and lungs.		
	Describe the cardiac cycle in terms of mechanical function and relative position of heart valve.		
	Describe the effects of increased heart rate on the contraction and relaxation phases of the cardiac cycle.		
	Describe the functional differences between the right heart and left heart pumps.		
	Describe nerve innervation of the heart.		
	Identify the chemical mediator of the parasympathetic nervous system and its primary effect on the heart.		
	Identify the chemical mediator of the sympathetic nervous system and the mechanical, cardiac, and peripheral effects of alpha receptor stimulation and beta receptor stimulation.		
	List major electrolytes that affect cardiac function.		
Terminology	Define the following terms that refer to cardiac physiology: stroke volume afterload, Starling's law, cardiac output, preload, and blood pressure.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
PRINCIPLES OF ELECTROCARDIOGRAPHY		**10**	**0**
Electrophysiology	Describe the electrical properties of the heart.		
	Name major electrolytes that affect cardiac function.		
Conduction system	Describe the normal sequence of electrical conduction through the heart and the purpose of this conduction system.		
	Describe the location and function of the following structures of the electrical conduction system: SA node, bundle of His, internodal and interatrial tracts, bundle branches, AV node, and purkinje fibers.		
	Describe cardiac depolarization and repolarization and the major electrolyte changes that occur in each process.		
	Identify three areas of the heart possessing pacemaking capabilities and the intrinsic (inherent) rates of each area.		
	Describe how electrical activity of the heart is affected by sympathetic stimulation, alpha receptors, beta receptors, and parasympathetic stimulation.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
EKG analysis	Describe an ECG.		
	Define the following terms as they relate to the electrical activity of the heart: isoelectric line, PR internal, P wave, ST segment, QRS complex, absolute and relative, T wave, and refractory period.		
	Describe information obtained from the vertical and horizontal axes of the ECG graph paper.		
	State the numerical values assigned to each small and each large box on the ECG graph paper for each axis.		
	Define ECG artifact and name the causes.		
	State the steps in the analysis format of ECG rhythm strips.		
	Describe the normal parameters for the following aspects of an ECG rhythm strip: rate, rhythm, P waves, PR interval, and QRS complex duration.		
	Describe two common methods for calculating heart rate on an ECG rhythm strip and the indications for using each method.		
	Name eight causes of dysrhythmias.		
	Describe the mechanisms of electrical impulses formation.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
EKG equipment	Describe the basic concept of ECG monitoring. Define a monitoring lead and describe how it differs from a 12-lead ECG. Describe what type of information can and cannot be obtained from a monitoring lead. Demonstrate proper application of ECG chest electrodes in obtaining a sample Lead II or MCL1 rhythm strip. Demonstrate the proper use of the defibrillator paddle electrodes to obtain a sample Lead II rhythm strip. Demonstrate how to properly assess the cause of poor ECG tracing.		
RECOGNITION OF CARDIAC DYSRHYTHMIAS		**20**	**0**
Sinus rhythms	Describe the etiology, Lead II ECG characteristics, clinical significance, and emergency treatment of the following dysrhythmias: sinus bradycardia, sinus tachycardia, sinus arrhythmia, and sinus arrest.		
Atrial rhythms	Describe the etiology, Lead II ECG characteristics, clinical significance, and emergency treatment of wandering pacemaker, premature atrial complexes, atrial tachycardia (PSVT), atrial flutter, and atrial fibrillation.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Junctional rhythms	Describe the etiology, Lead II ECG characteristics, clinical significance, and emergency treatment of premature junctional complexes, junctional escape complexes and rhythm, accelerated junctional rhythm, and paroxysmal junctional tachycardia (PSVT).		
Ventricular rhythms	Describe the etiology, Lead II ECG characteristics, clinical significance, and emergency treatment of ventricular escape complexes and rhythm, premature ventricular complexes, ventricular tachycardia, ventricular fibrillation, electrical mechanical dissociation (EMD), and asystole.		
Paced rhythms	Describe the etiology, Lead II ECG characteristics, clinical significance, and emergency treatment of artificial pacemaker rhythm.		
AV blocks	Describe the etiology, Lead II ECG characteristics, clinical significance, and emergency treatment of first degree AV block, Type I and Type II second degree AV block, third degree AV block, and bundle branch block/aberrant ventricular conduction. Identify P waves, PR intervals, QRS complexes, ST segments, P-P intervals, T waves, R-R intervals, and isoelectric lines on a rhythm strip. Recognize each of the common dysrhythmias on a Lead II rhythm strip or an ECG monitor.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
ASSESSMENT AND MANAGEMENT OF CARDIOVASCULAR EMERGENCIES		**18**	**3**
History and assessment	Name the common chief complaints of cardiac patients. Describe why the following occur in patients with cardiac problems: chest pain or discomfort; shoulder, arm, neck, or jaw pain/discomfort; dyspnea; syncope; and palpitations/abnormal heart beat. Describe those questions to be asked during history taking for each of the common cardiac chief complaints. Describe the four most pertinent aspects of the past medical history in a patient with a suspected cardiac problem. Identify, in a list of common prescription drugs, those that a patient may be taking for cardiovascular problems. Describe those aspects of the physical examination that should be given special attention in the patient with suspected cardiac problems. Describe the common characteristics of the pain/discomfort that occurs in angina pectoris and acute myocardial infarction.		

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Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Demonstrate the correct procedure for obtaining a history and performing a physical exam for cardiac-related problems.		
Pathophysiology of heart diseases	Describe the distribution of the coronary arteries and the parts of the heart supplied by each artery.		
	Describe the significance of the following physical exam findings in a cardiac patient: altered level of consciousness; peripheral edema; cyanosis; poor capillary refill; cool, clammy skin; jugular vein distension; pulmonary rales/wheezes; carotid artery bruit; and pulse irregularity.		
	Describe the pathophysiology of atherosclerosis.		
	List the three major modifiable risk factors for atherosclerosis.		
	List three major risk factors for atherosclerosis that cannot be modified.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the pathophysiology, signs and symptoms, and prehospital management (including drug therapy) of each of the following conditions: angina pectoris, acute myocardial infarction, right ventricular failure, left ventricular failure/pulmonary edema, cardiogenic shock, cardiac arrest, abdominal aortic aneurysm, dissecting aortic aneurysm, acute arterial occlusion, acute pulmonary embolism, venous thrombophlebitis, ruptured varicose veins, chronic peripheral arterial insufficiency, and malignant hypertension.		
Management of patient with cardiovascular impairment	Describe three causes of cardiac arrest other than ASHD and describe how medical management of these situations differs.		
	Contrast the etiology of cardiac arrest in infants and children with that in adult patients.		
	Describe the indications for use of rotating tourniquets.		
	Demonstrate assessment techniques and emergency management of patients with common cardiovascular impairments.		
	Demonstrate appropriate clinical assessment and management of a cardiac patient having any common dysrhythmias.		
	Demonstrate the proper application of rotating tourniquets.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Demonstrate, on a mannequin, the proper procedure for patient assessment and performance of carotid massage.		
	Demonstrate the correct technique for performing noninvasive (external) cardiac pacing.		
EMERGENCY RESUSCITATIVE TREATMENT		**20**	**15**
Cardiac drugs	Describe the action, prehospital indications, side effects, adult and pediatric dosages, contraindications, special considerations, and precautions for each of the following drugs: atropine sulfate, lidocaine hydrochloride, bretylium tosylate, verapamil, epinephrine, norepinephrine, isoproternol, dopamine, sodium bicarbonate, calcium chloride, oxygen, nitrous oxide, nitroglycerin, morphine sulfate, furosemide, aminophylline, and diazepam.		
	Describe the action, uses, and side effects of the following drugs that are not used in the field but commonly taken by cardiac patients: digitalis and propanolol.		
	Demonstrate preparation and proper administration of a prescribed dose of any of the cardiac drugs.		
Defibrillation and synchronized cardioversion	Describe the indications for use of a precordial thump.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the indications for use of synchronized cardioversion and unsynchronized cardioversion.		
	Describe energy recommendations for defibrillation of adult and pediatric patients.		
	Demonstrate, on an adult mannequin, the techniques for single- and two-person CPR according to American Heart Association standards.		
	Demonstrate proper application of ECG chest electrodes in obtaining a sample Lead II or MCL1 rhythm strip.		
	Demonstrate the proper use of the defibrillator paddle electrodes to obtain a sample Lead II rhythm strip.		
	Demonstrate the proper technique for administering a precordial thump.		
	Demonstrate correct operation of a monitor-defibrillator to perform defibrillation on an adult and infant.		
	Demonstrate the correct technique for performing synchronized cardioversion.		
	Demonstrate proper application and operation of mechanical CPR adjunctive device.		
ACLS SKILLS		**2**	**2**
	Perform complete objectives as listed in ACLS programs in the provider's/instructor's manual.		

SPECIFIC OCCUPATIONAL

EMS 108 - Cardiology

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Brown, K. R., & Jacobsen, S. (1988). *Mastering dysrhythmias: A problem solving guide.* Philadelphia: Davis.

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Hanna, J. (1981). *Ambulance and EMS driving.* Englewood Cliffs, NJ: Prentice Hall.

Mitchell, J., & Resnik, H. L. (1981). *Emergency response to crisis.* Englewood Cliffs, NJ: Prentice Hall.

Shade, B., & Alspach, J. G. (1988). *Advanced cardiac life support certification preparation and review* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Siegel, B. M. (1981). *Reviewing basic EMT skills: A guide for self-evaluation.* Akron, OH: Educational Direction.

Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

Walraven, G. (1987). *Basic arrhythmias* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

SPECIFIC OCCUPATIONAL

EMS 111 - Medical Emergencies I

Course Overview

Course Description

Provides an in-depth study of the endocrine, nervous, digestive, genitourinary, immune systems, infectious disease, and anaphylaxis. Topics include: assessment and management of endocrine system disorders, assessment and management of nervous system disorders, assessment and management of digestive system and genitourinary system disorders, and anaphylaxis. This course provides instruction on topics in Division IV, Sections 3, 4, 5, 6, and 8 of the national curriculum.

Competency Areas

Assessment and Management of Endocrine System Disorders
Assessment and Management of Nervous System Disorders
Assessment and Management of Digestive and Genitourinary System Disorders
Anaphylaxis

Prerequisites

EMS 105, EMS 107

Credit Hours

3

Contact Hours Per Week

Class - 3

Lab - 0

SPECIFIC OCCUPATIONAL

EMS 111 - Medical Emergencies I

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
ASSESSMENT AND MANAGEMENT OF ENDOCRINE SYSTEM DISORDERS		**8**	**0**
Anatomy and physiology of the endocrine system	Define hormone.		
	Discuss hormone production, including function and factors influencing production.		
	Discuss the location and function of the anterior and posterior pituitary gland.		
	Discuss the location and function of the thyroid gland, including the parathyroid gland.		
	Discuss the location and function of the adrenal glands including the adrenal cortex and adrenal medulla.		
	Discuss the structure, location, and function of the pancreas.		
	Discuss the location and function of the ovaries, estrogen, and progesterone.		
	Discuss the location and function of the testes.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the function of insulin, including absorption of glucose/insulin secretion to glucose, insulin secretion, glucose metabolism, and return to homeostasis.		
	List and briefly discuss the two functions of the islets of Langerhans.		
	Discuss the function of glucogen, including the cycle: lowering blood glucose concentration, secretion of glucogen, increase of blood glucose concentration, and return to homeostasis.		
Management of diabetic complications	Define diabetes mellitus.		
	Discuss juvenile onset of diabetes mellitus.		
	Discuss osmotic diuresis in diabetes.		
	Discuss the mechanism of ketone body formation and ketoacidosis.		
	Discuss kidney excretion of ketoacids and potassium.		
	Discuss the pathophysiology of hypoglycemia, including: insulin and the relationship to serum glucose levels and epinephrine and glycogen.		
	Discuss the precipitation of hypoglycemia.		
	List eight resulting signs/symptoms related to hypoglycemia.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the compensating mechanism in a hypoglycemic patient.		
	Describe the onset of hypoglycemia.		
	Discuss the effects that low insulin levels have on the body.		
	Discuss the effects that increased glucose levels have on the body.		
	Discuss the pathophysiology of diabetic ketoacidosis, including blood sugar level and insulin level.		
	Discuss the precipitation of diabetic ketoacidosis.		
	List eight signs/symptoms related to diabetic ketoacidosis.		
	As related to the ketoacidotic patient, discuss the body's compensating mechanism.		
	Discuss the general management of the hypoglycemic patient and hyperglycemic patient who is conscious, including airway management, intravenous therapy, drug therapy, and circulation.		
	Discuss the general management of the hypoglycemic patient who is unconscious, including airway management, intravenous therapy, drug therapy, and circulation.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the general management of the ketoacidotic patient who is unconscious, including airway management, intravenous therapy, drug therapy, and circulation.		
ASSESSMENT AND MANAGEMENT OF NERVOUS SYSTEM DISORDERS		**12**	**0**
Anatomy and physiology of the nervous system	Identify the parts of a neuron and describe their function.		
	Describe the process of impulse transmission for nerve cells.		
	Describe the types of nerve cells by function.		
	Identify and describe the protective mechanisms of the brain.		
	Describe the arterial and venous circulation to the brain.		
	Locate the following areas of specialization in the brain for speech, vision, personality, balance and coordination, sensory, and motor.		
	List the parts of the brain.		
	Describe the protective mechanisms for the spinal cord.		
	Identify the divisions of the spinal column.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Identify the location of the brachial plexus and the lumbar-sacral plexus.		
	Identify the divisions of the autonomic nervous system and describe the functions and effects of each.		
Neurological assessment	Identify the historical factors to be elicited when evaluating the nervous system including trauma-related and nontrauma-related problems.		
	Identify specific observations and physical findings to be evaluated in the patient with a nervous system disorder including: primary survey; vital signs; neurologic evaluation; and head-to-toe survey (pupils, extraocular movements, and spinal evaluation).		
	Describe the rating system for the Glasgow Coma Scale.		
Management of specific neurological disorders	Describe the pathophysiology, assessment, and management of the following: coma, seizures, status epilepticus, stroke, and transient ischemic attacks.		
	For the following drugs, identify the pharmacology and actions, the indications, precautions, administration and side effects, for the adult and pediatric patient: Mannitol, Decadron, glucose 50%, naloxone, and diazepam.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Pathological effects of specific neurological disorders	List possible causes of coma. Differentiate between syncope and seizures. Describe and differentiate the major types of seizures. Describe the phases of a generalized seizure.		
ASSESSMENT AND MANAGEMENT OF DISORDERS OF THE DIGESTIVE AND GENITOURINARY SYSTEMS		**5**	**0**
Anatomy and physiology of the GI and GU systems	Discuss the function of the primary gastrointestinal organs, including mouth, pharynx, esophagus, stomach, intestines (large/small), rectum, and peritoneum. Discuss the function of the gastrointestinal accessory organs, including salivary glands, teeth, liver, gallbladder, pancreas, and vermiform appendix. Identify the organs located in the right upper quadrant, left upper quadrant, right lower quadrant, and left lower quadrant. Describe the borders of the abdominal cavity. Identify the two major arteries and veins in the abdomen.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	List solid organs in the abdominal/pelvic cavity and retroperitoneal space.		
	List hollow organs in the abdominal/ pelvic cavity and retroperitoneal space.		
	Define testes, prostate, penile urethra, epididymis, and vas deferens.		
Assessment and management of the patient with acute abdomen	Discuss the following nonhemorrhagic causes of acute abdominal pain: local inflammation of edema, local obstruction; peritoneal inflammation of edema, pain secondary to edema; and general inflammation of edema, significant fluid loss.		
	List disease processes that cause nonhemorrhagic abdominal pain.		
	Define hematemesis.		
	List hemorrhagic causes of acute abdominal pain.		
	Discuss the specific questions you would ask to obtain a history in a patient with abdominal pain.		
	Discuss signs and symptoms of local inflammation, peritoneal inflammation, and general inflammation.		
	Describe signs and symptoms of upper gastrointestinal bleed and lower gastrointestinal bleed.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss management of the patient with acute abdominal pain.		
	Demonstrate competency in treating the patient with specific acute abdominal emergency, including drug therapy.		
Assessment and management of the patient and GU disorders	Discuss general causes of genitourinary disorders.		
	Discuss pathophysiology, including causes and complications of acute renal failure, chronic renal failure, kidney stones, and urinary tract infection.		
	Describe management of renal failure.		
	Discuss assessment of a kidney stone, including signs and symptoms.		
	Describe management of the patient with a kidney stone.		
	Discuss assessment, including signs and symptoms related to a urinary tract infection.		
	Describe management of the patient with urinary tract infection.		
	Discuss types of dialysis.		
	Discuss complications related to dialysis.		
	Discuss the assessment and management of the dialysis patient with complications.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss signs and symptoms of epididymitis and torsion of testes.		
	Discuss the assessment and management of the patient with epididymitis and torsion of testes.		
	Demonstrate the ability to take a relevant history from the patient with genitourinary disorders, dialysis related disorders, and reproductive system disorders.		
	Demonstrate the ability to perform a complete physical assessment on the patient with genitourinary disorder, dialysis related disorders, and reproductive system disorders.		
	Demonstrate competency in treating the patient with specific genitourinary disorders, specific dialysis related disorders, and specific reproductive system disorders, including drug therapy.		
ANAPHYLAXIS		**5**	**0**
Pathophysiology of antigen antibody reactions	Discuss antigens, including definition, examples, and four ways antigens are introduced.		
	Define antibody and discuss production.		
Pathophysiology, assessment, and management of the patient with anaphylaxis	Define anaphylaxis.		
	Describe the pathophysiology of anaphylaxis.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss effects that anaphylaxis may have on the following body systems: respiratory, cardiovascular, gastrointestinal tract, central nervous, and skin.		
	In a patient with anaphylaxis, identify signs and symptoms as related to the respiratory system, cardiovascular system, gastrointestinal system, nervous system, and skin.		
	Differentiate between mild anaphylaxis and severe anaphylaxis.		
	Describe the assessment and management of mild and severe anaphylaxis.		
	Describe the pharmacology/actions, indications, precautions, administration (adult and pediatric), and side effects/special notes for the following drugs: oxygen; epinephrine 1:1000, 1:10,000; diphenhydramine (Benedryl); aminophylline; and decadron.		
	Demonstrate the ability to take a relevant history from the patient with anaphylaxis.		
	Demonstrate competency in effective assessment and management of the patient with anaphylaxis, including drug therapy.		

SPECIFIC OCCUPATIONAL

EMS 111 - Medical Emergencies I

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Brown, K. R., & Jacobsen, S. (1988). *Mastering dysrhythmias: A problem solving guide.* Philadelphia: Davis.

Campbell, J. E. (1988). *Basic trauma life support.* Englewood Cliffs, NJ: Prentice Hall.

Caroline, N. L. (1987). *Ambulance calls: Review problems in emergency care* (2nd ed.). Boston: Little.

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Greenwald, J. (1988). *The paramedic manual.* Englewood, CO: Morton.

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Hanna, J. (1981). *Ambulance and EMS driving*. Englewood Cliffs, NJ: Prentice Hall.

Mitchell, J., & Resnik, H. L. (1981). *Emergency response to crisis.* Englewood Cliffs, NJ: Prentice Hall.

Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

SPECIFIC OCCUPATIONAL

EMS 112 - Medical Emergencies II

Course Overview

Course Description

Emphasizes the etiology and pathophysiology and in-field management of immune system compromise and infectious disease and toxicologic, environmental, and gerontological emergencies. Topics include: assessment and management of the patient with infectious disease and the utilization of universal precautions; toxicology, alcoholism, and substance abuse disease process; management of environmental emergencies; and geriatrics and gerontology. This course provides instruction on topics in Division IV, Sections 7, 9, and 10 of the national curriculum.

Competency Areas

Assessment and Management of the Patient with Infectious Disease
Toxicology, Alcoholism, and Substance Abuse Disease Process
Management of Environmental Emergencies
Geriatrics and Gerontology

Prerequisite/Corequisite

EMS 111

Credit Hours

3

Contact Hours Per Week

Class - 3

Lab - 0

SPECIFIC OCCUPATIONAL

EMS 112 - Medical Emergencies II

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
ASSESSMENT AND MANAGEMENT OF THE PATIENT WITH INFECTIOUS DISEASE		6	0
Infectious diseases	Define virus.		
	Define bacteria.		
	Define fungus.		
	Define infectious disease and the general cause.		
	List three examples of infectious diseases and the general cause.		
	Discuss how infectious diseases are transmitted.		
	Define communicable disease.		
	Give an example of a highly communicable disease caused by a virus.		
	Give an example of a communicable disease caused by bacteria.		
	Give an example of a communicable disease caused by fungi.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Body's response to infectious agents	Briefly discuss the body's immune system.		
	Define antigen.		
	Define antibody.		
	Define antigenic determinants.		
	Define leukocyte.		
	Discuss the major components of the immune system.		
	Define lymph.		
	Define interstitial fluid.		
	Discuss composition of lymph and interstitial fluid.		
	Discuss the lymphatic system.		
	Discuss lymph circulation.		
	Discuss the function of lymph, antibody, thymus, and spleen.		
	Discuss the formation and types of lymphocytes.		
	Discuss the development, activation, and function of B cells.		
	Discuss the development, activation, and function of T cells.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Identify and discuss the location of lymphocytes.		
	Describe the structure and types of antibodies.		
	Define autoimmune diseases.		
	Discuss how stress relates to and affects disease.		
	Discuss anatomy and physiology of specific body systems, which are affected by specific diseases.		
	Discuss EMT personnel hygiene.		
Assessment and management of the patient with specific infectious disease	Identify the pertinent history-related questions to be asked when evaluating the patient with an infectious disease.		
	Identify signs and symptoms to be evaluated in a patient with an infectious disease, including: primary survey, including level of consciousness; vital signs; secondary survey (head-to-toe survey); and neurological evaluation.		
	Define tuberculosis.		
	Discuss the pathophysiology of tuberculosis, including acute generalized form and chronic localized form.		
	Discuss the body systems commonly affected by tuberculosis.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss signs and symptoms related to the patient with tuberculosis.		
	Discuss assessment and management of the patient with tuberculosis.		
	Discuss EMT safety as related to handling the patient with tuberculosis.		
	Define hepatitis.		
	Discuss the pathophysiology of hepatitis.		
	Discuss the body systems commonly affected by hepatitis.		
	Discuss symptoms related to the patient with hepatitis acute anicteric, hepatitis cholangiolitic, hepatitis fulminant, infectious hepatitis, serum hepatitis, toxic hepatitis, and Type A and Type B viral hepatitis.		
	Discuss assessment and management of the patient with hepatitis.		
	Discuss EMT safety as related to handling the patient with hepatitis.		
	Define meningitis.		
	Discuss the causes of meningitis.		
	Discuss the pathophysiology of meningitis.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the body systems commonly affected by meningitis.		
	Discuss signs and symptoms related to the patient with meningitis.		
	Briefly discuss acute meningitis, cerebral meningitis, cerebrospinal meningitis, pneumococcal meningitis, spinal meningitis, traumatic meningitis, and tuberculous meningitis.		
	Discuss assessment and management of the patient with meningitis.		
	Discuss EMT safety as related to handling the patient with meningitis.		
	Define measles.		
	Discuss follow-up after exposure to an infectious disease, including notification procedures by hospital and notification procedures by EMT.		
	Discuss vehicle cleaning procedures.		
	Demonstrate the ability to take a history from the patient with an infectious disease.		
	Demonstrate the ability to perform a complete physical assessment on the patient with an infectious disease.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Assessment and management of the patient with a sexually transmitted disease	Describe syphilis.		
	Discuss the types of syphilis.		
	Discuss the pathophysiology of syphilis.		
	Discuss the body systems commonly affected by syphilis.		
	Discuss the signs and symptoms related to the patient with syphilis.		
	Define gonorrhea.		
	Discuss the pathophysiology of gonorrhea.		
	Discuss the body systems commonly affected by gonorrhea.		
	Discuss the signs and symptoms related to the patient with gonorrhea.		
	List two types of herpes simplex.		
	Discuss the pathophysiology of herpes simplex type 2.		
	Discuss the body systems commonly affected and the incubation period of herpes simplex type 2.		
	Discuss the signs and symptoms related to the patient with herpes simplex type 2.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the body systems commonly affected by meningitis.		
	Discuss signs and symptoms related to the patient with meningitis.		
	Briefly discuss acute meningitis, cerebral meningitis, cerebrospinal meningitis, pneumococcal meningitis, spinal meningitis, traumatic meningitis, and tuberculous meningitis.		
	Discuss assessment and management of the patient with meningitis.		
	Discuss EMT safety as related to handling the patient with meningitis.		
	Define measles.		
	Discuss follow-up after exposure to an infectious disease, including notification procedures by hospital and notification procedures by EMT.		
	Discuss vehicle cleaning procedures.		
	Demonstrate the ability to take a history from the patient with an infectious disease.		
	Demonstrate the ability to perform a complete physical assessment on the patient with an infectious disease.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Assessment and management of the patient with a sexually transmitted disease	Describe syphilis.		
	Discuss the types of syphilis.		
	Discuss the pathophysiology of syphilis.		
	Discuss the body systems commonly affected by syphilis.		
	Discuss the signs and symptoms related to the patient with syphilis.		
	Define gonorrhea.		
	Discuss the pathophysiology of gonorrhea.		
	Discuss the body systems commonly affected by gonorrhea.		
	Discuss the signs and symptoms related to the patient with gonorrhea.		
	List two types of herpes simplex.		
	Discuss the pathophysiology of herpes simplex type 2.		
	Discuss the body systems commonly affected and the incubation period of herpes simplex type 2.		
	Discuss the signs and symptoms related to the patient with herpes simplex type 2.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss assessment and management of the patient with a sexually transmitted disease.		
	Discuss EMT safety as related to handling the patient with a sexually transmitted disease.		
	Define and discuss the pathophysiology of scabies.		
	Define and discuss the pathophysiology of lice.		
	Discuss the body systems commonly affected by scabies/lice.		
	Discuss the signs and symptoms related to the patient with scabies/lice.		
	Discuss assessment and management of the patient with scabies/lice.		
	Discuss EMT safety as related to handling the patient with scabies/lice.		
	Discuss vehicle cleaning procedures.		
	Demonstrate the ability to take a history from the patient with an infectious disease.		
	Demonstrate the ability to perform a complete physical assessment on the patient with an infectious disease.		
Management of the patient with AIDS	Define Acquired Immune Deficiency Syndrome (AIDS).		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Discuss the pathophysiology of AIDS.		
	Discuss the body systems commonly affected and the incubation period of AIDS.		
	Discuss the signs and symptoms related to the patient with AIDS.		
	Discuss EMT safety as related to handling the patient with a sexually transmitted disease.		
	Discuss vehicle cleaning procedures.		
	Demonstrate the ability to take a history from the patient with an infectious disease.		
	Demonstrate the ability to perform a complete physical assessment on the patient with an infectious disease.		
TOXICOLOGY, ALCOHOLISM, AND SUBSTANCE ABUSE DISEASE PROCESS		**12**	**0**
Mechanisms and assessment of poisoning emergencies	Discuss the relative importance of toxicologic emergencies in prehospital care.		
	Describe the routes of entry of toxic substances into the body.		
	Discuss the role of Poison Control Centers in the EMS system and in the management of patients with toxicological emergencies.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Assessment and management of specific poisoning	Describe the aspects of the patient's history that are relevant in the management of a patient with ingested poison. Describe the general principles of management of a patient with ingested poison. Discuss the factors affecting the decision to induce vomiting in a patient with ingested poison. Describe the signs, symptoms, and management of the following specific cases of ingested poisons: strong acids or alkalies, hydrocarbon products, methyl alcohol or ethylene glycol, cyanide, food poisoning, and poisonous plants. Describe the general principles of management of a patient with inhaled poison. Describe the signs, symptoms, and management of the following specific cases of inhaled poisons: carbon monoxide, freon, ammonia, chlorinated hydrocarbons, and methyl chloride. Describe the general principles of management of a patient with injected poison.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the signs, symptoms, and management of the following specific cases of injected poison: bees, hornets, wasps, or yellow jackets; brown recluse spider; black widow spider; scorpion; rattlesnakes, copperhead, or cotton-mouth water moccasin; coral snake; and marine animals.		
	Describe the general principles of management of a patient with a surface absorbed poison.		
	Describe the signs, symptoms, and management of the following specific cases of surface absorbed poison: organophosphate chemicals and cyanide.		
	Demonstrate the application of a constricting band.		
	Demonstrate the procedures for incising a snake bite wound.		
Assessment and management of the overdose victim	Describe the general principles of management of a patient with an overdose.		
	Describe the signs, symptoms, and management of the following specific cases of overdose: narcotics, sedatives/depressants, aspirin, and acetaminophen.		
Drug abuse	Discuss the incidence of drug abuse in the U.S.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Define substance or drug abuse, substance or drug dependence, tolerance, withdrawal, and addiction.		
	List the most commonly abused drugs (both by chemical name and "street names") and describe their physiological and psychological effects.		
	Describe the management of emergencies stemming from the use of hallucinogens (LSD, mescaline, DMT, psilocybin), phencyclidine (PCP), cocaine, cannabis (marijuana), and amphetamine.		
Pathophysiology, assessment, and management of alcoholism as a disease	Discuss the incidence of alcoholism in the U.S.		
	Discuss the signs, symptoms, and management of acute alcohol overdose.		
	Discuss the signs and symptoms, of chronic alcohol use.		
	Discuss the signs, symptoms, and management of alcoholic withdrawal (delirium tremens or "DT's").		
MANAGEMENT OF ENVIRONMENTAL EMERGENCIES		**6**	**0**
Pathophysiology, assessment, and management of heat and cold emergencies	List the two terms associated with bodily temperature extremes.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Define the function of two structures in the body's primary thermoregulatory mechanism.		
	List two mechanisms of thermal generation within the body and the basic mechanism associated with each.		
	Describe the body's compensatory mechanism for excess thermal gain.		
	Describe four ways in which the body dissipates heat into the external environment.		
	Describe the body's compensatory mechanism for excess thermal loss.		
	State three common forms of heat disorder.		
	Define the role of sodium in heat cramps.		
	List the signs and symptoms associated with heat cramps.		
	Describe the treatment of heat cramps.		
	Define the role of sodium in heat exhaustion.		
	List the signs and symptoms associated with heat exhaustion.		
	Describe the treatment of heat exhaustion.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	List two environmental factors associated with heat stroke.		
	Describe the role of the body's primary thermoregulatory mechanism in heat stroke.		
	State the critical upper range temperature at which cellular deterioration begins.		
	Differentiate the following parameters among heat cramps, heat exhaustion, and heat stroke: pathophysiology, cramping, mental status, skin condition, internal temperature, pulse, and blood pressure.		
	State the treatment modality that is common to heat cramps, heat exhaustion, and heat stroke besides the ABC's of basic life support.		
	List predisposing factors and preventative measures associated with heat disorders.		
	Define fever (pyrexia) and identify the pathophysiological mechanisms causing the disorder.		
	Define hyperpyrexia and identify pathophysiological mechanisms.		
	State the field treatment of pyrexia.		
	State the causative factor associated with acute systemic hypothermia.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	State the temperature range, signs, and symptoms associated with mild systemic hypothermia.		
	State the temperature range, signs, and symptoms associated with severe systemic hypothermia.		
	Describe the metabolic responses to both mild and severe systemic hypothermia and the implications of these responses to pharmacotherapy and defibrillation.		
	Discuss the treatment of hypothermia.		
	State conditions under which rewarming should be initiated in the field.		
	List two metabolic factors that may be associated with chronic hypothermia.		
	List individuals who are at greatest risk for hypothermia.		
	Differentiate between frostnip, superficial frostbite, and deep frostbite.		
	State the steps in the field management of frostbite.		
	State the immersion rewarming temperature for frostbitten extremities and the rationale for this temperature.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Assessment and management of drowning, near-drowning, and diving injuries	State the importance of near-drowning as a leading cause of accidental death in the U.S.		
	Describe the usual physiologic sequence of events in a near-drowning episode.		
	Describe the pulmonary and systemic pathophysiology in near-drowning patients.		
	State the factors affecting survival times and probability of successful resuscitation in near-drowning patients.		
	Describe the management of the near-drowning patient.		
	Describe the anatomy and physiology of breathing gas under pressure.		
	List the common medical problems associated with diving accidents.		
	Describe the various major physiologic factors which may predispose a diver to decompression sickness.		
	Describe the pathophysiology of decompression sickness.		
	Describe the signs, symptoms, and management of decompression sickness.		
Assessment and management of radiation emergencies	Identify the common types and sources of ionizing radiation.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Identify sources of normal background radiation.		
	Describe the pathophysiology of ionizing radiation received over acute and/or chronic exposure.		
	Describe the signs, symptoms, and management of the radiated patient.		
	Describe the relative risks to the paramedic in handling the radiated patient.		
GERIATRICS AND GERONTOLOGY		**6**	**0**
Physiology of the aging process	Discuss statistics on aging, including increased life expectancy, percent of population over 65 years old, and leading causes of death in the geriatric population.		
	Discuss at least six factors which contribute to the elderly being at high risk for increased medical care.		
	Discuss general decline in the respiratory system, cardiovascular system, renal system, nervous system, musculoskeletal system, gastrointestinal system, and response to emotions/stress.		
Assessment of the geriatric patient	List at least 12 diseases/disorders common in the elderly.		
	List four factors that complicate clinical evaluation of the geriatric patient.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the common complaints of the geriatric patient (not specific to any one disorder) relating to the geriatric patient's history and four considerations which may mask the patient's ability to communicate significant signs/symptoms.		
	Discuss fatigue, excessive clothing, and disguised signs/symptoms as related to the physical examination of a geriatric patient.		
Neurological problems in the geriatric patient	Define syncope.		
	Define presyncope.		
	Discuss the pathophysiology of syncope.		
	Discuss vasodepressor syncope, orthostatic syncope, and cardiac syncope.		
	Define seizure and discuss the progression of events.		
	Define vertigo and discuss the progression of events.		
	Define dementia.		
	Discuss the etiologies of chronic senile dementia and acute organic brain syndrome.		
	Define delirium.		
	Define Alzheimer's Disease.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss six signs/symptoms of Alzheimer's Disease and the progression of events.		
	Define stroke and TIA.		
	Discuss four causes of focal neurological deficits.		
	List four drugs which may produce adverse reactions in the geriatric patient and may culminate in cerebral dysfunction.		
Cardiovascular and respiratory problems in the geriatric patient	Discuss signs/symptoms of cardiovascular conditions, specific to the geriatric patient.		
	Discuss syncope as related to cardiovascular conditions: vasodepressor, orthostatic, vasovagal, and cardiac.		
	Discuss congestive heart failure as related to the elderly.		
	List two causes of dysrhythmias in the elderly.		
	Discuss the following as related to the geriatric patient: aortic dissection, abdominal aortic aneurysm, and peripheral arterial and venous conditions.		
	List six conditions that may be associated with respiratory distress as related to the elderly patient.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss findings which may be specific to the geriatric patient suffering from pulmonary embolism.		
	Discuss findings that may be specific to the geriatric patient suffering from respiratory tract infection.		
	Discuss chronic bronchitis with reference to the geriatric.		
	Discuss management of respiratory distress.		
Management of the geriatric patient's abdominal distress	Discuss GI bleeding as related to geriatric patients.		
	Discuss two causes of upper intestinal hemorrhage.		
	Discuss four causes of massive lower intestinal hemorrhage.		
	Discuss six significant signs of blood loss.		
	Discuss cholecystitis/biliary disease as related to the elderly patient.		
	Discuss small bowel obstruction and its causes.		
	Discuss large bowel obstruction, its main cause, and main signs/symptoms.		
	Discuss diverticulitis, including its signs/symptoms.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss appendicitis, including signs/symptoms and complications.		
	Discuss pancreatitis and its common cause and symptoms.		
	Discuss peptic ulcer disease/perforation and its common cause and signs/ symptoms.		
	List signs and symptoms associated with gastrointestinal disorders in the elderly.		
	Discuss the general management of critical GI bleeding in the elderly.		
Adaptation of general principles of care to the geriatric patient	Discuss the pathophysiology of carcinoma.		
	List four kinds of cancer directly attributable to high mortality rate.		
	List six signs/symptoms of carcinoma.		
	Discuss general management of the cancer patient.		
	Prehospital priorities of care for trauma in elderly are similar to those for all trauma patients; list two considerations.		
	Discuss trauma management considerations in the elderly for the following systems: cardiovascular system, respiratory system, and renal system.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss positioning, immobilization, and packaging of the elderly trauma patient (with consideration of physical deformities).		
	List at least six factors which contribute to adverse drug reactions in the elderly.		
	List at least ten drugs which commonly cause toxicity in the geriatric patient.		
	Discuss symptoms, drug interactions, and management of digitalis intoxication.		
	Discuss symptoms of adverse reaction, drug interaction, and management of diuretic use.		
	Discuss symptoms of adverse reaction, drug interaction, and management of antihypertensive drug use.		
	Discuss symptoms of adverse reaction, drug interaction, and management of antiarrhythmic drug use.		
	Discuss symptoms of adverse reaction, drug interaction, and management of psychotropic drug use.		
	Discuss symptoms of adverse reaction, drug interaction, and management of antidepressant use.		
	Discuss symptoms of adverse reaction, drug interaction, and management of salicylate use.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss geriatric abuse and factors which precipitate abuse.		
	Discuss signs and symptoms as related to geriatric abuse.		
	Discuss the profile of a potential geriatric abuser.		
	Discuss at least two considerations as related to obtaining a history from the abused geriatric.		

SPECIFIC OCCUPATIONAL

EMS 112 - Medical Emergencies II

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Campbell, J. E. (1988). *Basic trauma life support.* Englewood Cliffs, NJ: Prentice Hall.

Caroline, N. L. (1987). *Ambulance calls: Review problems in emergency care* (2nd ed.). Boston: Little.

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Mitchell, J., & Resnik, H. L. (1981). *Emergency response to crisis.* Englewood Cliffs, NJ: Prentice Hall.

Shade, B., & Alspach, J. G. (1988). *Advanced cardiac life support certification preparation and review* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Siegel, B. M. (1981). *Reviewing basic EMT skills: A guide for self-evaluation.* Akron, OH: Educational Direction.

Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

SPECIFIC OCCUPATIONAL

EMS 113 - OB/GYN

Course Overview

Course Description

Provides a study of female reproductive systems, birth processes, and management of OB/GYN emergencies. Topics include: anatomy and physiology of the female reproductive system, normal and abnormal birth processes, assessment and management of OB/GYN emergencies, assessment and management of the newborn, and management of sexual assault victims. This course provides instruction on topics in Division V, Section 1 of the national curriculum.

Competency Areas

Anatomy and Physiology of the Female Reproductive System
Normal and Abnormal Birth Processes
Assessment and Management of OB/GYN Emergencies
Assessment and Management of the Newborn
Management of Sexual Assault Victims

Prerequisite

EMS 105

Credit Hours

1

Contact Hours Per Week

Class - 1

D.Lab - 1

SPECIFIC OCCUPATIONAL

EMS 113 - OB/GYN

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
ANATOMY AND PHYSIOLOGY OF THE FEMALE REPRODUCTIVE SYSTEM		**2**	**0**
Reproductive system	Describe the location and functions of the ovaries, fallopian tubes, uterus, vagina, cervix, perineum, labia, and endometrium.		
	Describe the normal menstrual cycle.		
	Define the following terms: antepartum, postpartum, natal, prenatal, primigravida, primipara, multigravida, and multipara.		
NORMAL AND ABNORMAL BIRTH PROCESSES		**4**	**5**
Normal birth process	Identify the normal site of ovum fertilization and ovum implantation.		
	Describe the functions of the placenta, umbilical cord, and amniotic sac and fluid.		
	Describe fetal development and circulation.		
Abnormal birth process	Discuss the possible effects of trauma on both mother and fetus.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Discuss the effect of pregnancy on the following preexisting diseases: diabetes, essential hypertension, neuromuscular disorders, and cardiac disorders.		
	Define spontaneous abortion, criminal abortion, and therapeutic abortion.		
	Describe Braxton-Hicks contractions and their significance.		
	Describe the pathophysiology, assessment, and management of eclampsia and preeclampsia.		
	Describe the signs, symptoms, and management of supine hypotensive syndrome.		
Normal labor and delivery	Define the stages of labor and the length of each stage.		
	Describe the progression of labor.		
	Define effacement, cervical dilatation, crowning, and presenting part.		
	Discuss factors that influence transport decisions for the patient in labor.		
	List and describe steps for a normal delivery.		
	Describe the management during delivery when the cord is wrapped around the baby's neck.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Demonstrate the ability to use bulb syringe suction and DeLee suction.		
	Demonstrate the ability to clamp and cut an umbilical cord.		
	Demonstrate the ability to calculate an accurate Apgar score.		
Abnormal delivery	Describe the pathophysiology, assessment, and management of cephalopelvic disproportion (CPD).		
	List factors that may cause a large fetus.		
	List and describe five abnormal positions or presentations of the fetus during delivery and the general management principles.		
	Describe the pathology and management of a prolapsed umbilical cord.		
	Describe the management of the multiple birth delivery.		
	Describe the occurrence, complications, and management of a precipitate labor.		
	Describe the pathophysiology, assessment, and management of postpartum hemorrhage.		
	Discuss the indications for and technique of fundal massage.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the pharmacology and actions, indications, precautions, administration, and side effects of oxytocin.		
ASSESSMENT AND MANAGEMENT OF OB/GYN EMERGENCIES		**2**	**2**
GYN emergency care	Identify specific details of history that should be obtained in the gynecologic patient.		
	List the side effects of commonly used contraceptives.		
	Describe the typical signs, symptoms, and management of pelvic inflammatory disease.		
	Identify sources of nontraumatic abdominal pain.		
OB emergency care	Identify specific details of history that should be obtained in the obstetric patient.		
	Identify specific physical findings that should be assessed in the obstetric patient.		
	Demonstrate the ability to appropriately administer oxytocin.		
	Describe the pathophysiology, assessment, and management of a patient who has had or is having an abortion.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe the pathophysiology, assessment, and management of ectopic pregnancy, abruptio placenta, and placenta previa.		
	Describe the pathophysiology, assessment, and management of uterine rupture.		
	Identify the pathophysiology, assessment, and management of uterine inversion.		
	Identify the pathophysiology, assessment, and management of pulmonary embolism during the antepartum or postpartum period.		
	Demonstrate the ability to properly assess the patient with a possible gynecologic disorder.		
	Demonstrate the ability to properly assess the pregnant patient.		
	Demonstrate the ability to obtain an appropriate history when evaluating the patient with an obstetric chief complaint.		
	Demonstrate the ability to perform an appropriate assessment when evaluating an obstetric patient.		
ASSESSMENT AND MANAGEMENT OF THE NEWBORN		**1**	**3**
Newborn care	Describe the routine care of the newborn.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	List four means by which heat loss occurs in infants.		
	Describe methods of heat conservation in the newborn.		
	Discuss the effects of hypothermia on the newborn infant.		
	Define the parameters of Apgar scoring and the numerical values utilized.		
	Describe resuscitation for the distressed infant.		
	Describe two methods of stimulating the distressed infant.		
	Describe the appropriate administration of oxygen to the newborn.		
	Describe methods of ventilatory assistance for the newborn infant.		
	Identify the rate of ventilation to be used in the nonbreathing newborn.		
	Describe the technique for cardiac compressions on the newborn.		
	Identify the significance of meconium staining.		
Neonatal care	Demonstrate the ability to appropriately manage a newborn infant.		
	Demonstrate the ability to perform infant CPR according to AHA standards.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Identify the major problems that occur during transport of the neonate.		
	Identify heat sources that may and may not be utilized to warm the neonate.		
MANAGEMENT OF SEXUAL ASSAULT VICTIMS		**1**	**0**
Care of the sexual assault victim	Identify potential sources of trauma to the external genitalia and management of injuries.		
	Identify specific physical findings that should be assessed in the gynecologic patient.		
	Identify principles of management for the sexual assault victim.		

SPECIFIC OCCUPATIONAL

EMS 113 - OB/GYN

Resources

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

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Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

SPECIFIC OCCUPATIONAL

EMS 114 - Pediatrics

Course Overview

Course Description

Provides the student with the necessary knowledge and skills to care for the ill or injured pediatric patient. Topics include: growth and development, specific diseases of the pediatric patient, approach to and assessment of the pediatric patient, and management of the pediatric patient. This course provides instruction on topics in Division IV, Section 11 and Division V, Section 1 of the national curriculum.

Competency Areas

Growth and Development
Specific Diseases of the Pediatric Patient
Approach to and Assessment of the Pediatric Patient
Management of the Pediatric Patient

Prerequisites

EMS 105, EMS 107, EMS 108, EMS 109

Credit Hours

2

Contact Hours Per Week

Class - 2

D.Lab -1

SPECIFIC OCCUPATIONAL

EMS 114 - Pediatrics

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
GROWTH AND DEVELOPMENT		**3**	**0**
Characteristic growth and development	Define the terms growth and development. Identify normal age-related vital signs in the pediatric patient. Describe the normal and abnormal appearance of the anterior fontanelle in the infant. Identify relevant aspects of normal growth and development, personality development, relationship to parents, history factors, common illnesses, and accidents for each of the various age groups.		
Characteristics of the abused child	Describe the characteristics of the abused child.		
SPECIFIC DISEASES OF THE PEDIATRIC PATIENT		**5**	**0**
SIDS	Define Sudden Infant Death Syndrome (SIDS). Describe the incidence of SIDS. Discuss the current theories on SIDS.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Reyes syndrome	Describe the pathophysiology, assessment and management of the child with suspected Reyes Syndrome.		
Respiratory disorders	Discuss the pathophysiology assessment and management of the following respiratory disorders: bronchiolitis, croup, and epiglottitis.		
APPROACH TO AND ASSESSMENT OF THE PEDIATRIC PATIENT		**5**	**0**
Assessment of the pediatric patient	Demonstrate the ability to obtain an appropriate history when evaluating the pediatric patient.		
	Demonstrate the ability to perform an appropriate assessment when evaluating the pediatric patient.		
	Demonstrate the ability to assess vital signs in the pediatric patient utilizing the appropriate equipment.		
	Discuss the sources of historical information in the pediatric patient.		
	List the principles in the general approach to the pediatric patient.		
	Describe the assessment of SIDS cases.		
	Describe the characteristics of the child abuser.		
	Discuss the assessment of the potentially abused child, including important historical information.		

Recommended Outline	After completing this section, the student will:	Hours Class	Lab
	Describe the pathophysiology, assessment, and management of pediatric seizures.		
	Describe the pathophysiology, assessment, and management of dehydration in the pediatric patient.		
	Describe the pathophysiology, assessment, and management of the child with suspected meningitis.		
	Describe the pathophysiology, assessment, and management of the child with suspected septicemia.		
	Discuss the pathophysiology, assessment, and management of the following respiratory disorders: bronchiolitis, croup, and epiglottitis.		
MANAGEMENT OF THE PEDIATRIC PATIENT		**7**	**10**
Pediatric care	Identify the general goals of management of the pediatric patient.		
	Describe the management of SIDS cases.		
	Identify the immediate needs of the SIDS family.		
	Describe the management of the victim and family in the child abuse situation.		
	Discuss legal requirements of health professionals to report suspected child abuse.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Identify the steps in relieving airway obstruction in the infant and child according to American Heart Association standards.		
	Identify the correct pediatric dosage for the following using AHA ACLS Standards: atropine sulfate, calcium chloride, dopamine, epinephrine, epinephrine infusion, furosemide, isoproterenol, lidocaine, lidocaine infusion, naloxone, and sodium bicarbonate.		
	Describe the technique for endotracheal intubation in the pediatric patient.		
	Identify appropriate blade sizes and endotracheal tube sizes for the pediatric patient.		
	Describe the site selection for intravenous infusions in the pediatric patient.		
	Describe the equipment selection for intravenous therapy in the pediatric patient.		
	Demonstrate the ability to manage airway obstruction in the infant and child.		
	Demonstrate the ability to perform CPR on the pediatric patient according to American Heart Association standards.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Demonstrate the ability to perform endotracheal intubation in the pediatric patient.		
	Demonstrate the ability to perform intravenous therapy on the pediatric patient, including selection of appropriate equipment, solutions, and anatomical sites.		
	Discuss prolonged infantile apnea syndrome (PIAS) and the use of home monitoring systems.		

SPECIFIC OCCUPATIONAL

EMS 114 - Pediatrics

Resources

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Caroline, N. L. (1987). *Emergency care in the streets* (3rd ed.). Boston: Little.

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Simon, J. E., & Goldberg, A. T. (1989). *Pediatric life support manual.* St. Louis: Mosby.

SPECIFIC OCCUPATIONAL

EMS 116 - Behavioral Emergencies

Course Overview

Course Description

Provides an overview of the assessment and the management of behavioral emergencies as they pertain to prehospital care. Topics include: communication skills and crisis intervention, assessment and management of the adult and adolescent patient with behavioral emergencies, management of the violent patient, management of the suicidal patient, medical/legal considerations, and stress management. This course provides instruction on topics in Division 6, Section 1 and Division 1, Section 7 of the national curriculum.

Competency Areas

Communication Skills and Crisis Intervention
Assessment of the Adult and Adolescent Patient with Behavioral Emergencies
Management of the Violent Patient
Management of the Suicidal Patient
Medical/Legal Considerations
Stress Management

Prerequisite

Program admission

Credit Hours

1

Contact Hours Per Week

Class - 1

Lab - 0

SPECIFIC OCCUPATIONAL

EMS 116 - Behavioral Emergencies

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
COMMUNICATION SKILLS AND CRISIS INTERVENTION		**2**	**0**
Verbal and nonverbal communication skills	List the proper verbal communication techniques useful in managing the emotionally disturbed patient. Define the following terms: facilitation, confrontation, open-ended questions, affect, posture, and mental status. Describe the techniques that may be useful in redirecting anxiety in relatives and bystanders.		
Crisis intervention	List factors that may alter the emotional status of the ill or injured. Describe the reason for reassuring the patient experiencing an emotional crisis. List the techniques of management of all children who are emotional. List those factors specific to the elderly patient experiencing crisis. Describe the circumstances when bystanders and relatives should be removed from the scene.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	List those factors specific to the pediatric patient experiencing emotional crisis.		
ASSESSMENT OF THE ADULT AND ADOLESCENT PATIENT WITH BEHAVIORAL EMERGENCIES		**2**	**0**
Assessment of behavioral emergencies	Define the term "behavioral emergency."		
	Describe those overt behavioral modifications associated with: rage, hostility, suicide, violence, depression, hyperactivity, and paranoia.		
	Define the following terms: anxiety, confusion, anger, emotional crisis, conversion reaction, fear, and depression.		
	Describe the techniques that facilitate the systematic gathering of information from the disturbed patient.		
	Describe the appropriate action of the EMT-P when confronted by the uncontrollable armed patient.		
MANAGEMENT OF THE VIOLENT PATIENT		**1**	**0**
Protection of the paramedic	List the reasons for taking appropriate means to insure the safety of the paramedic.		
	Describe the appropriate action of the EMT-P when confronted by the uncontrollable armed patient.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe those techniques useful in protecting the EMT-P when attacked by a violent patient.		
Restraint of the violent patient	Describe the appropriate techniques used in restraining the patient.		
	List those situations in which the EMT-P is expected to restrain or transport a patient forcibly and against his will.		
MANAGEMENT OF THE SUICIDAL PATIENT		**1**	**0**
Suicidal patient	List those factors that increase the risk of suicides.		
	Describe those behaviors that are indirect indicators of an impending suicide attempt.		
MEDICAL/LEGAL CONSIDERATIONS		**1**	**0**
Legal protections for the EMT-P	List the appropriate communications of significant findings to the resource hospital.		
	Describe the extent to which force and restraint may be used to protect the EMT, the patient, and the third party.		
	Describe the significance of obtaining expressed consent.		
STRESS MANAGEMENT		**3**	**0**
Death and dying	Describe the stages of the grief process.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
	Describe common needs of the patient, the family, and the EMT-P in dealing with death and dying.		
	Describe common management techniques used by the EMT-P when a patient is dead or dying.		
	Identify issues of controversy in prehospital care involving death and dying.		
Stress assessment	Define the term stress.		
	Name the causes of stress.		
	Describe the three phases of the stress response.		
	Name and describe at least five defense mechanisms commonly used to deal with stress.		
	Describe factors that determine whether anxiety is a positive or negative response.		
	Describe the common physiologic effects of stress.		
	Describe behavior that is a manifestation of stress in: patients, patient's families, and the EMT-P.		
	Name common causes of job stress for the EMT-P.		
Stress management	Describe various techniques the EMT-P may use to manage stress.		

Recommended Outline	After completing this section, the student will:	Hours Class	Hours Lab
Post-trauma stress	Define post-trauma stress. List signs and symptoms related to post-trauma stress. Define the term "debriefing" as a technique for controlling EMT-P stress following a stress situation. Describe the techniques that are useful in managing the effects of crisis situations on the EMT-P.		

SPECIFIC OCCUPATIONAL

EMS 116 - Behavioral Emergencies

Resources

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Campbell, J. E. (1988). *Basic trauma life support.* Englewood Cliffs, NJ: Prentice Hall.

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SPECIFIC OCCUPATIONAL

EMS 118 - Clinical Application of Advanced Emergency Care

Course Overview

Course Description

Provides supervised experience that meets Georgia Department of Human Resources (GDHR) requirements for actual patient care in the hospital and advanced ambulance settings. Simulations in the classroom, experience on an advanced ambulance, and service in a hospital develop assessment and treatment skills. Emphasis is placed on ethics and hospital etiquette, assessment and management of medical emergencies, practice of paramedic roles and responsibilities, and application of patient care skills. This course will be delivered in one, two, three, or four quarters in accordance with technical institution and hospital affiliation agreements. Clinical opportunities will be provided that meet GDHR requirements for clinical experience in the following areas: the emergency department, ICU/CCU, OR/recovery, IV team, pediatrics, nursery, labor/delivery, crisis intervention, morgue, and advanced ambulance. Topics include: ethics and hospital etiquette, care of the critical intensive care patient, intravenous therapy, airway and ventilation management, management of normal and abnormal deliveries, management of the pediatric patient in the emergency department, management of the adult in the emergency department, patient care in an advanced ambulance, and psychological intervention.

Competency Areas

Ethics and Hospital Etiquette
Care of the Critical Intensive Care Patient
Intravenous Therapy
Airway and Ventilation Management
Management of Normal and Abnormal Deliveries
Management of the Pediatric Patient in the Emergency Department
Management of the Adult in the Emergency Department
Patient Care in an Advanced Ambulance
Psychological Intervention

Prerequisite

Program admission

Prerequisite/Corequisite

EMS 103

Credit Hours

12

Contact Hours Per Week

Class - 0

O.B.I. - 36

SPECIFIC OCCUPATIONAL

EMS 118 - Clinical Application of Advanced Emergency Care

Course Outline

Recommended Outline	After completing this section, the student will:	Hours Class	OBI
ETHICS AND HOSPITAL ETIQUETTE		**0**	**(360)**
Privacy and confidentiality	Comply with patient privacy rights.		
	Respect confidentiality.		
Codes, charting, and regulations	Use proper charting terms and abbreviations.		
	Use hospital emergency codes for fire, cardiac arrest, and security, as appropriate.		
	Follow the rules and regulations of the hospital and other clinical affiliates.		
CARE OF THE CRITICAL INTENSIVE CARE PATIENT		**0**	**(360)**
Assessment of the intensive care patient	Perform patient assessment, including developing a pertinent medical history and performing a physical examination. At a minimum, the patient assessment should include a review of the patient's chart, taking vital signs, and auscultation of chest sounds.		
	Recognize the signs and symptoms of increased intracranial pressure and describe the management of the patient.		

Recommended Outline	After completing this section, the student will:	Hours Class OBI
	Recognize the signs, symptoms, and treatment of hypoxia and hypercarbia.	
	Recognize the signs, symptoms, causes, and treatment of hypovolemia.	
	Review all cases including the patient's chart, diagnosis, and treatment.	
Management of the intensive care patient	Assist with the maintenance of a patent airway in the unconscious patient.	
	Administer intramuscular, subcutaneous, and IV medications utilizing a cannula.	
	Assist in the care of patients with endotracheal or tracheostomy tubes and patients breathing on respirators.	
Assessment of the coronary care patient	Carry out a physical assessment of a patient with coronary artery disease.	
	Recognize cardiac arrhythmias on a monitor.	
	Identify rales, rhonchi, and wheezes.	
	Identify a gallop rhythm and systolic murmur.	
	Identify the signs, symptoms, and treatment of cardiogenic shock.	
	Identify the signs, symptoms, and treatment of congestive heart failure.	
Management of the coronary care patient	Participate in the pharmacological and electrical management of complications of the acute MI.	

Recommended Outline	After completing this section, the student will:	Hours Class	OBI
	Identify the coronary risk factors of patients in the unit.		
	Identify the psychological effects of coronary artery disease and of a stay in a critical care unit.		
INTRAVENOUS THERAPY		**0**	**(360)**
IV injection	Demonstrate aseptic techniques.		
	Identify IV fluids using an intravenous catheter with supervision.		
	Perform peripheral IV insertion using both a straight needle and an over-the-needle catheter device on adults.		
	Initiate fluids on an elderly patient.		
	Review techniques with the IV therapist for the use of IV fluids in children, but do not start fluids on a child while with the IV team due to legal restrictions.		
	Observe the techniques of the IV nurse.		
	Note the complications of IV therapy.		
Phlebotomy	Draw blood samples.		
	Prepare blood samples for blood sugar, electrolytes, type and cross-match, and CBC analysis.		

Recommended Outline	After completing this section, the student will:	Hours Class	OBI
AIRWAY AND VENTILATION MANAGEMENT		**0**	**(360)**
Assessment of airway and ventilation	Perform patient assessment including developing relevant medical history and conducting a physical examination. The assessment should include, at a minimum, taking and recording vital signs and auscultation of chest sounds. Identify rales, rhonchi, and wheezes. Identify and manage patients presenting the following problems, as patient census allows: asthmatic attack and chronic obstructive pulmonary disease. Discuss the pathophysiology, assessment, and management of the following respiratory disorders: bronchiolitis, croup, and epiglottitis. Recognize the signs, symptoms, and treatment of hypoxia and hypercarbia.		
Airway management	Assist with respiratory care. Maintain air in an unconscious patient using manipulations and positions of the head, oropharyngeal airway, etc. Assist with the maintenance of a patent airway in the unconscious patient. Perform oxygen administration.		
Endotracheal and tracheal tubing	Assist in the care of patients with endotracheal or tracheostomy tubes and patients breathing on respirators.		

Recommended Outline	After completing this section, the student will:	Hours Class	OBI
	Perform endotracheal intubation.		
	Perform aseptic endotracheal and orotracheal suctioning.		
	Perform endotracheal intubation in the operating/recovery room.		
	Perform insertion of an esophageal obturator airway.		
Pneumothorax	Relieve tension pneumothorax using a catheter and Heimlich valve, if appropriate.		
Anesthetized patient	Maintain a patent airway in an unconscious anesthetized patient without an airway adjunct.		
	Maintain a patent airway utilizing an oropharyngeal airway on an anesthetized patient.		
	Maintain a patent airway utilizing an endotracheal tube on an anesthetized patient.		
	Maintain adequate ventilation with a bag-valve-mask on an anesthetized patient.		
MANAGEMENT OF NORMAL AND ABNORMAL DELIVERIES		**0**	**(360)**
Assessment of mother and neonate	Identify the three stages of labor and common complications and abnormal deliveries.		

Recommended Outline	After completing this section, the student will:	Hours Class OBI
	Monitor the vital signs of a patient in active labor.	
	Monitor fetal heart tones with the mother's and nurse's permission.	
	Observe fetal monitoring.	
	Feel and time uterine contractions with the mother's permission.	
	Observe the signs and symptoms of eclampsia (toxemia).	
Delivery of an infant	Observe a normal cephalic vaginal delivery with patient and physician permission.	
	Observe complicated deliveries such as a breech delivery, multiple birth, placenta previa, abruptio placenta, caesarean section, and/or prolapsed cord.	
	Note the Apgar score.	
	Assist in the management of the newborn, including severing the cord, suctioning, etc.	
Postdelivery care	Assist in the resuscitation of the newborn.	
	Observe/assist with the immediate post-delivery care of the mother.	
Nursery	Observe/assist with the care of the neonate.	

Recommended Outline	After completing this section, the student will:	Hours Class	OBI
MANAGEMENT OF THE PEDIATRIC PATIENT IN THE EMERGENCY DEPARTMENT		**0**	**(360)**
Assessment of the pediatric patient	Interact with the children and parents.		
	Identify strategies for calming children and their parents used by the nurses and physicians.		
	Observe the psychological impact of illness or injury upon children and their parents.		
	Perform assessment of pediatric patients including, at a minimum, a review of the patient's chart, taking vital signs, and auscultation of chest sounds.		
	Observe a neonate for normal expected behaviors and responses to stimuli.		
	Identify the needs of a neonate and how those needs can be met.		
Pediatric patient care	Prepare and administer intramuscular and IV medications for pediatric patients, if allowed by the facility.		
	Monitor intravenous infusions for pediatric patients.		
	Assist in the management of febrile and seizure pediatric patients.		
	Assist in resuscitation management of pediatric patients, as allowed.		

Recommended Outline	After completing this section, the student will:	Hours Class	OBI
MANAGEMENT OF THE ADULT IN THE EMERGENCY DEPARTMENT		**0**	**(360)**
Assessment of the patient in the emergency department	Perform patient assessment including developing relevant medical history and conducting a physical examination. The assessment should include, at a minimum, taking and recording vital signs and auscultation of chest sounds.		
	Relate the prehospital care given to a patient to his presenting signs and symptoms in the emergency department.		
	Assist and review the treatment of trauma cases and medical emergencies.		
Management of the patient in the emergency department	Assist in triaging patients.		
	Assist in trauma cases requiring hemorrhage control, suturing, and splinting.		
	Assist with CPR as requested by the nurse in charge.		
	Assist with respiratory care.		
	Monitor signs and relate them to the patient's condition.		
	Apply wound dressings.		
	Monitor heart and breath sounds.		
	Observe for arrhythmias.		

Recommended Outline	After completing this section, the student will:	Hours Class OBI
	Observe the patients' emotional response to illness and/or injury.	
	Observe for the signs and symptoms of specific trauma states such as hypovolemia, increased intracranial pressure, and hypoxia.	
	Observe for response to treatment rendered.	
	Assist in cases of cardiac arrest, including the performance of cardiopulmonary resuscitation, airway management, intubation, and defibrillation.	
	Demonstrate the use of a transthoracic pacemaker.	
Operating/recovery room	Perform endotracheal intubation in the operating/recovery room.	
	Perform peripheral IV insertion in the operating/recovery room.	
	Administer IV medications and observe their effects on the patient in the operating/recovery room.	
Anesthesia	Maintain a patent airway in an unconscious anesthetized patient without an airway adjunct.	
	Maintain a patent airway utilizing an oropharyngeal airway on an anesthetized patient.	

Recommended Outline	After completing this section, the student will:	Hours Class	OBI
	Maintain a patent airway utilizing an endotracheal tube on an anesthetized patient.		
	Maintain adequate ventilation with a bag-valve-mask on an anesthetized patient.		
PATIENT CARE IN AN ADVANCED AMBULANCE		**0**	**(360)**
Patient assessment	Perform a patient assessment, including developing a relevant medical history, making pertinent observations of the environment, and doing a pertinent physical examination.		
Patient management	Maintain airway in an unconscious patient using manipulations and positions of the head, oropharyngeal airway, etc.		
	Perform oxygen administration.		
	Perform one-person cardiopulmonary resuscitation.		
	Perform peripheral IV insertion.		
	Draw blood samples.		
	Record and interpret EKG's.		
	Prepare and administer intramuscular, subcutaneous, and IV medications.		

Recommended Outline	After completing this section, the student will:	Hours Class OBI
	Identify and manage patients presenting the following problems, as patient census allows: - Major trauma to the head/neck, chest, abdomen, spine, and extremities - Possible myocardial infarction - Congestive heart failure - Chronic obstructive pulmonary disease - Obstructed airway - Diabetic emergencies - Asthmatic attack - Seizure - Coma - Obstetric problems - Psychiatric problems - Overdose - Intoxication.	
	Perform endotracheal intubation.	
	Perform aseptic endotracheal and orotracheal suctioning.	
	Perform monitored defibrillation.	
	Apply the MAST in cases of massive lower extremity trauma or shock.	
	Immobilize extremities in cases of fractures or dislocation.	
	Monitor vital signs and patient status during transport.	
	Perform spinal immobilization using short and long spine board.	
	Perform insertion of an esophageal obturator airway.	

Recommended Outline	After completing this section, the student will:	Hours Class	OBI
	Relieve tension pneumothorax using a catheter and Heimlich valve, if appropriate.		
	Perform a cricothyroidotomy, if appropriate.		
	Demonstrate the use of a transthoracic pacemaker, if appropriate.		
Communication	Relay patient information to the physician in the correct sequence.		
	Assist in receiving calls and dispatching emergency vehicles.		
Morgue	Observe basic topographic anatomy; identification, pathogenesis, and causes of death.		
	Observe the assessment of the anatomical basis of endotracheal intubation and cardiopulmonary resuscitation.		
	Observe the assessment of injuries resulting from trauma; specifically, injuries to soft tissues, the musculoskeletal system, and the internal structures.		
PSYCHOLOGICAL INTERVENTION		**0**	**(360)**
Assessment of psychiatric patients	Assist in the interview of patients with suicidal feelings, hostility and violent behavior, acute grief and depression, paranoia, hysterical conversion, and alcohol and drug addiction.		

Recommended Outline	After completing this section, the student will:	Hours Class OBI
Management of psychiatric patients	Observe/assist with the management of patients with suicidal feelings, hostility and violent behavior, acute grief and depression, paranoia, hysterical conversion, and alcohol and drug addiction. Assist in the restraint of combative patients. Record the use of drugs used for the treatment of suicidal feelings, hostility and violent behavior, acute grief and depression, paranoia, hysterical conversion, and alcohol and drug addiction.	

SPECIFIC OCCUPATIONAL

EMS 118 - Clinical Application of Advanced Emergency Care

Resources

American Heart Association. (1987). *Advanced cardiac life support.* Dallas: Author.

Bledsoe, B. E. (1987). *Atlas of paramedic skills.* Englewood Cliffs, NJ: Prentice Hall.

Brown, K. R., & Jacobsen, S. (1988). *Mastering dysrhythmias: A problem solving guide.* Philadelphia: Davis.

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Hanna, J. (1981). *Ambulance and EMS driving*. Englewood Cliffs, NJ: Prentice Hall.

Mitchell, J., & Resnik, H. L. (1981). *Emergency response to crisis*. Englewood Cliffs, NJ: Prentice Hall.

Shade, B., & Alspach, J. G. (1988). *Advanced cardiac life support certification preparation and review* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Siegel, B. M. (1981). *Reviewing basic EMT skills: A guide for self-evaluation.* Akron, OH: Educational Direction.

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Simon, J. E. (1988). *Prehospital pediatric life support.* St. Louis: Mosby.

Walraven, G. (1987). *Basic arrhythmias* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

APPENDIX A

APPENDIX A

Emergency Medical Services

Equipment List

Abdominal pack
Ace bandage
Activated charcoal
Aerosol bronchodilators
Air chisel
Air splint
Airway mannequins
Airway (oropharyngeal)
Alcohol prep sponge
Aluminum foil (sterile)
Aluminum splints
Ambulance trip report forms
Anatomical charts and models
Arm board
Arm slings
Audiovisual resources
Bag mask resuscitator
Band-Aids
Beacon
Bedpan
Bite stick
Blankets
Blood lances
Blood pressure cuff
Board (padded)
Board splint
Body bag
Bulb syringe
Bullet-proof vest
Burn dressing kit
Burn sheet (sterile)
Butterfly needle
Cardiac monitor
Center punch
Cervical collar
Chemical ice packs
Chest-decompression mannequins
Class simulated drugs
Cold pack
Collapsible stretcher
Connecting tubing (oxygen)
Connecting tubing (suction)
Contaminated needle container
Cotton swabs
CPR mannequins
Cricothyrotomy simulator
Defibrillator
Defibrillator rack
Dextro stick
Disaster tags
Disposable knife blades
Distilled water
Duct tape
Dysrhythmia generator
Elastic gauze (kling)
Electrode paste
Electrodes
Emesis basin
Endotracheal stylette
Endotracheal tube
Esophageal airway (EOA)
Esophageal gastric tube airway (EGTA)
Extrication hand tools
Fail-safe system
Fire extinguisher
Flashlight
Floodlights
Fracture pack
Gastric duct airway
Gauze pads (sterile & unsterile 4x4, 2x2)

Gloves (sterile)
Hammer
Hemostats
Hot/cold pack
Hurst tool
Hydraulic rescue kit (port-power)
I.M. injection trainer
I.V. cannulas
I.V. catheter
I.V. hanger
I.V. simulation arms (EGTA)
Intercom
Interosseous needle
Intravenous administration sets
Intravenous fluids (D5W)
Intravenous fluids (lactated ringers)
Isolation protective clothing
Isolette
Jelly (K.Y.)
Jump kit
Ladder
Ladder splints
Laryngoscope
Linen
Long backboard
Magill forceps
Mechanical CPR device
Mechanical resuscitator/demand valve
Monitor/defibrillator
Motorcycle helmet
Multilevel stretcher
Multitrauma dressing
Nasal O_2 cannulas
Naso-gastric tube
Naso-pharyngeal airway
OB mannequins
Obstetrical kit
Oxygen mask
Oxygen tank (portable with regulator)
Paper bag
Paper pad
Pediatric and infant CPR mannequins
Pediatric bag valve mask
Pediatric I.V. simulator
Pen light
Pencil (or pen)
Pharyngeal trachael lumen airway
Pillow
Pneumatic antishock trousers, adult and pediatric
Pneumatic splints
Pocket mask
Poison antidote kit
Prep kit
Prep razor
Protective helmet
Radio telemetry
Radio (two-way)
Restraints
Resuscitation mannequins
Ring cutter
Rope
Safety flares
Safety pins
Sand bag
Scalpel (sterile)
Scissors (bandage)
Scoop stretcher
Short backboard
Shovel
Siren
Skeleton
Snake bite kit
Stair chair
Sterile eye pads
Stethoscope
Stop watch
Stretcher straps
Suction catheter
Suction unit (manifold operated)
Suction unit (portable)
Surgi-combine dressing (ABD)

Surgical dressing
Surgical face mask
Syringe needles (sterile)
Tape (adhesive) various
Thermometer
Thirty ton jack
Thomas splint (half ring)
Tongue depressor
Tourniquet
Traction splint
Trauma mannequin
Triangular bandage
Urinal
Vacutainers
Vaseline gauze
Walkie-talkie
Wash basin
Water (sterile)
Winch
Wood blocks

APPENDIX B

APPENDIX B

Emergency Medical Services

Medications List

50% dextrose
Aminophylline
Ammonia capsules
Atropine
Benadryl
Bretylium
Calcium chloride
Dopamine
Epinephrine
Inderal
Instant glucose
Ipecac
Isuprel
Lasix
Lidocaine
Morphine
Narcan
Nitroglycerin
Phenergan
Pronestyl
Sodium bicarbonate
Stadol
Valium
Verapamil

Other medications as needed locally

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